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FIG. 1

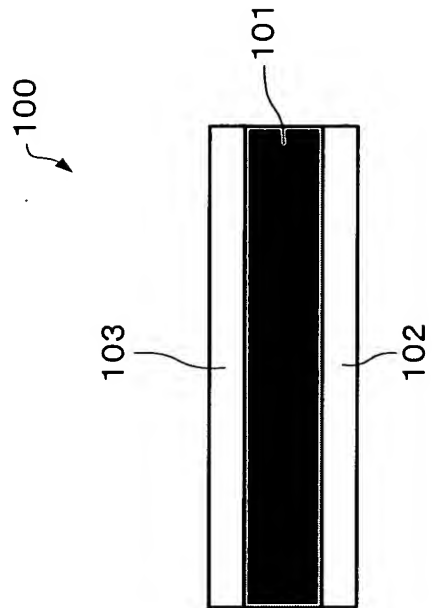


FIG. 2

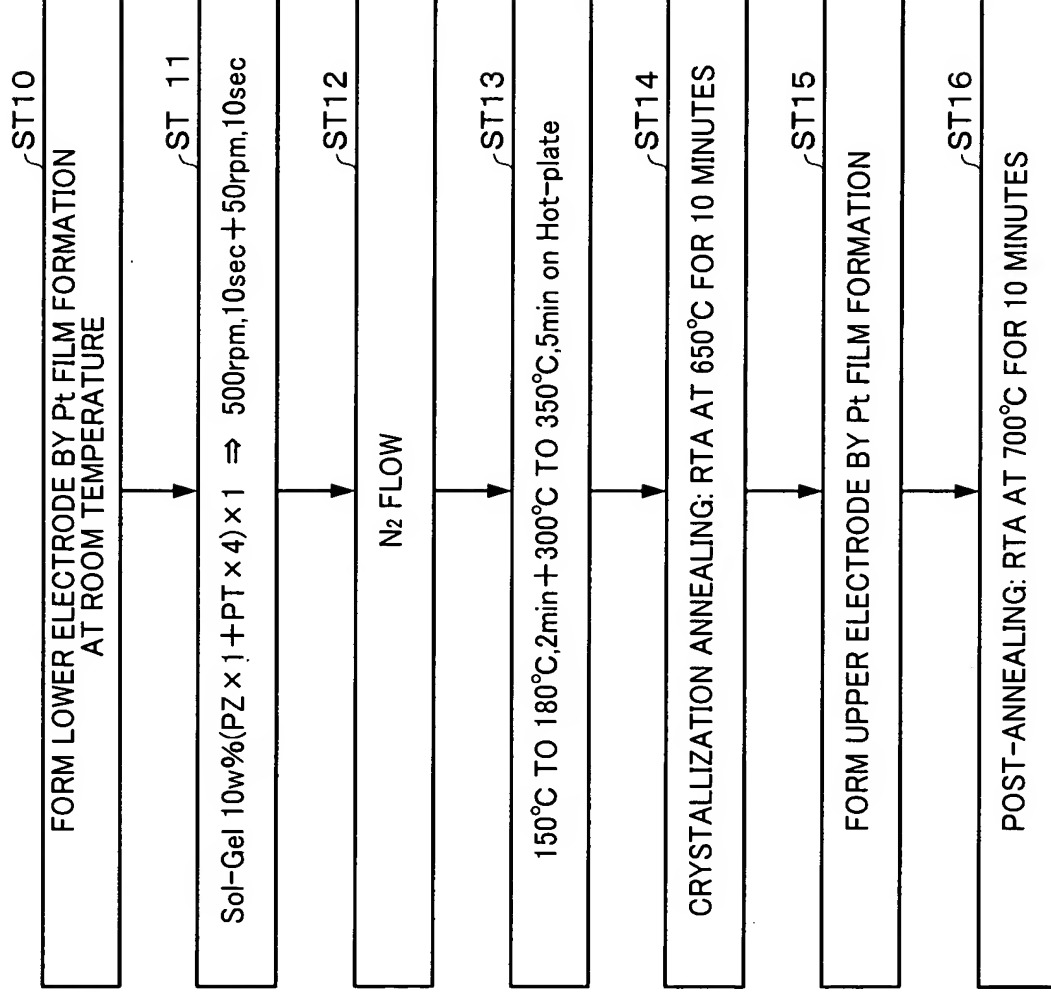


FIG. 3

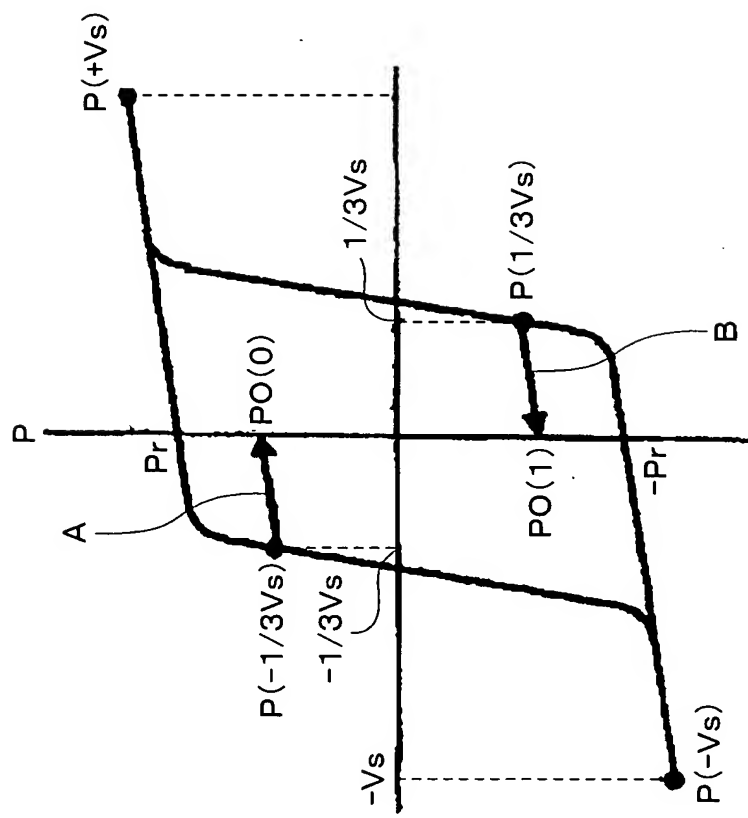


FIG. 4A

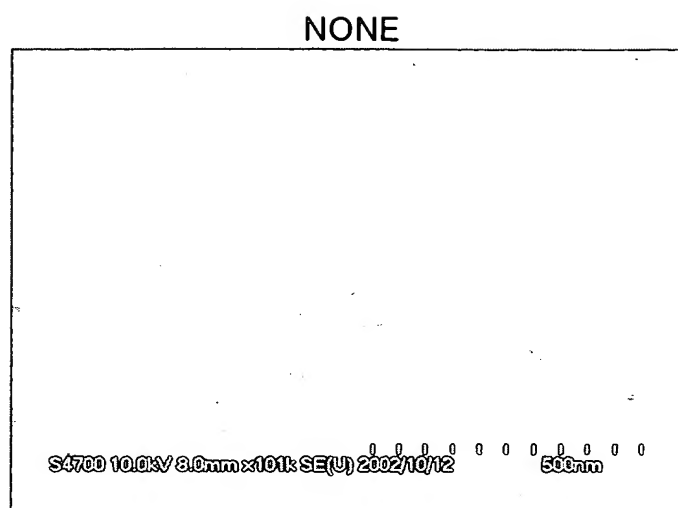


FIG. 4B

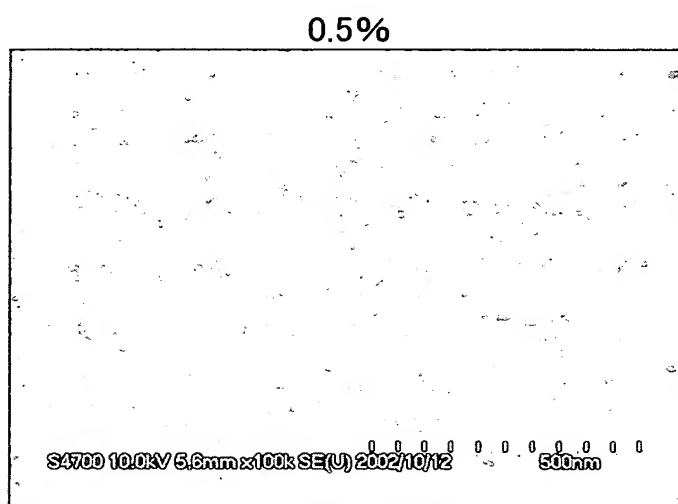


FIG. 4C

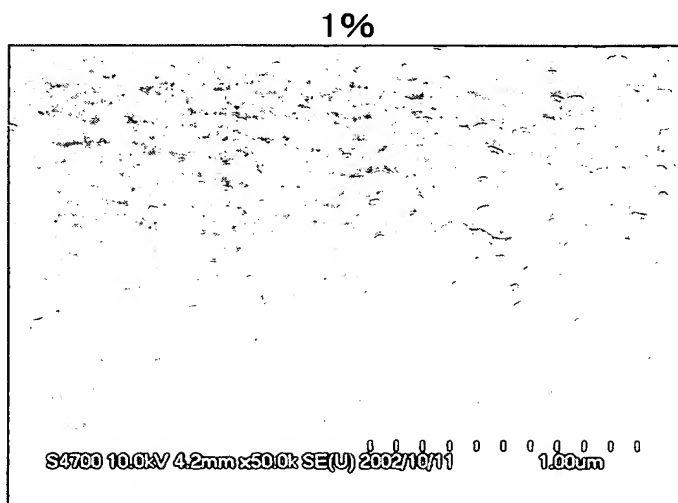


FIG. 5A

NONE

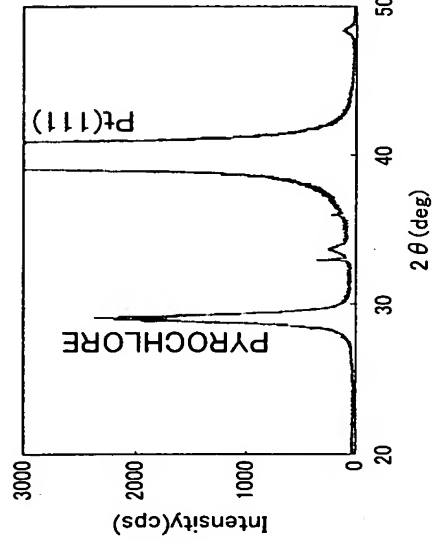


FIG. 5B

0.5%

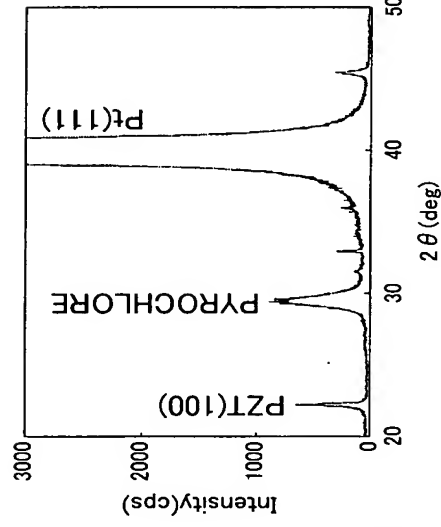


FIG. 5C

1%

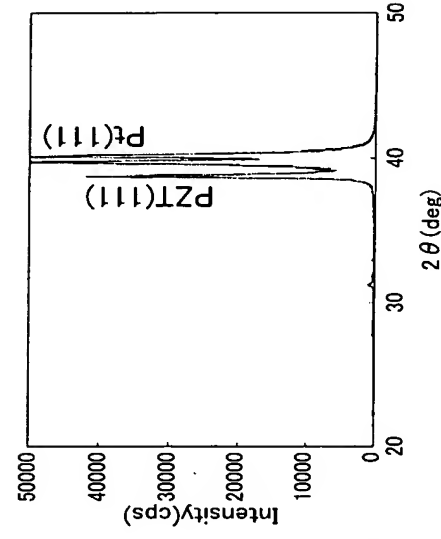


FIG. 6A

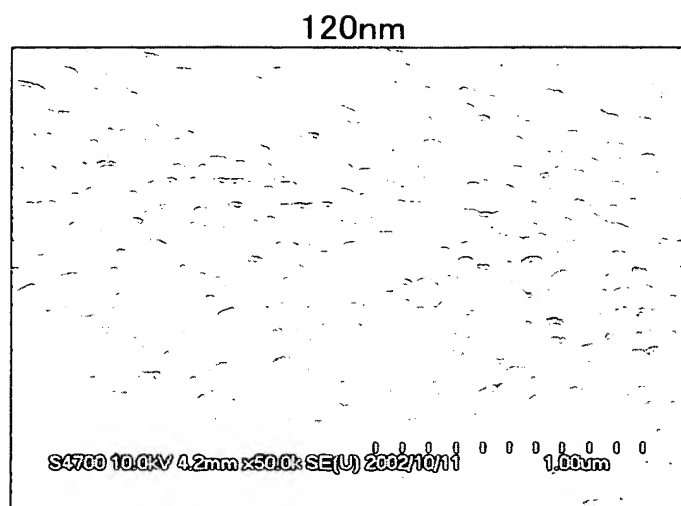


FIG. 6B

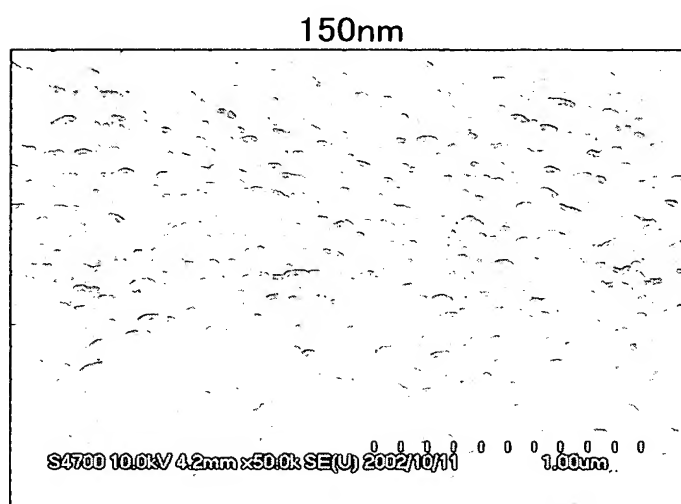


FIG. 6C

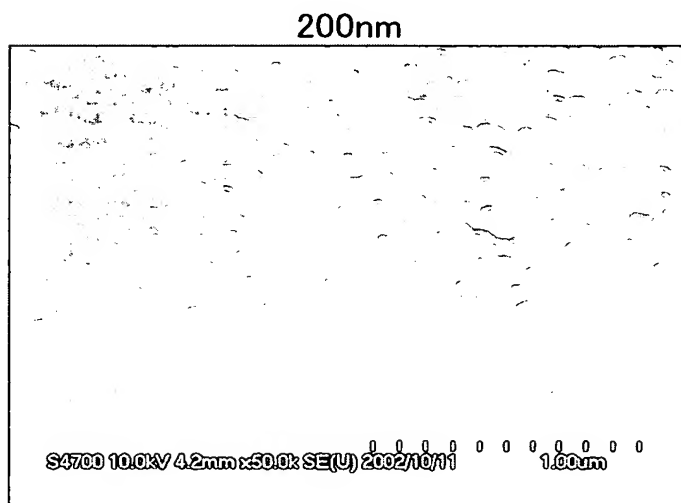


FIG. 7A

120nm

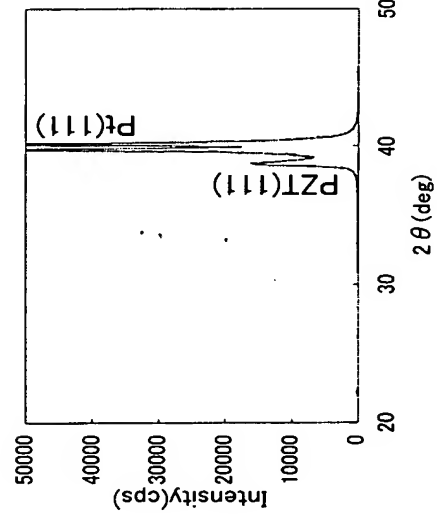


FIG. 7B

150nm

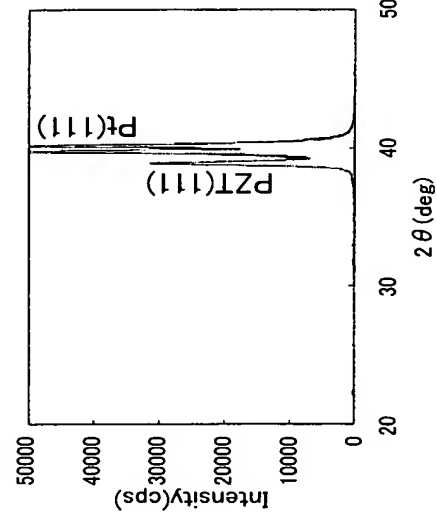


FIG. 7C

200nm

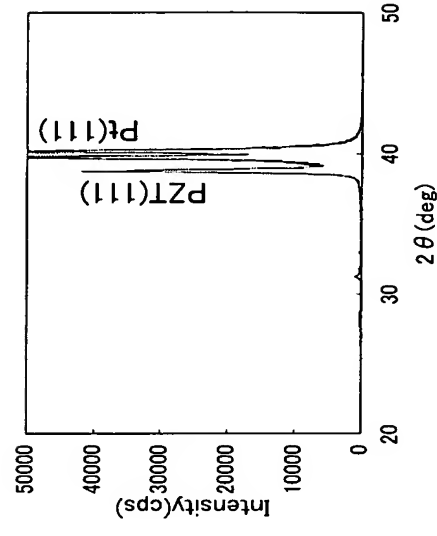




FIG. 8A

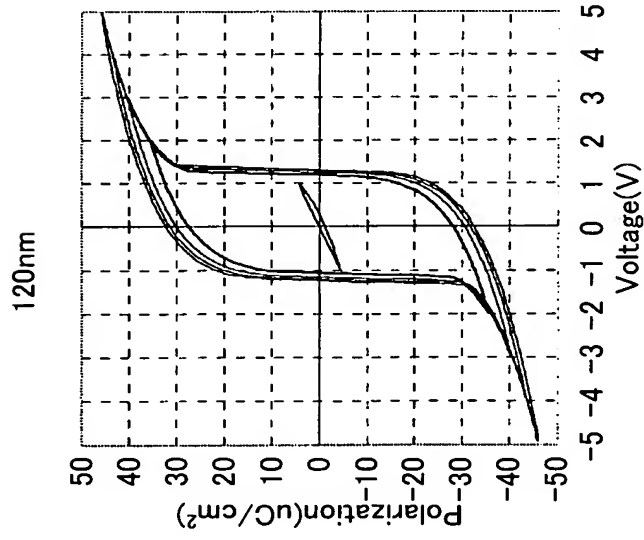


FIG. 8B

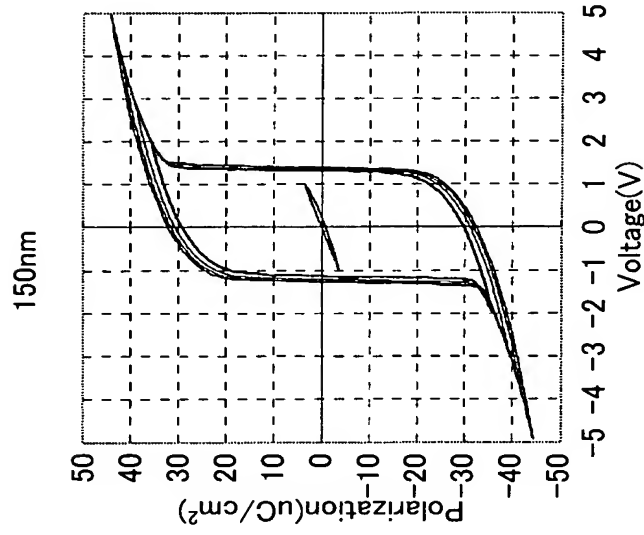


FIG. 8C

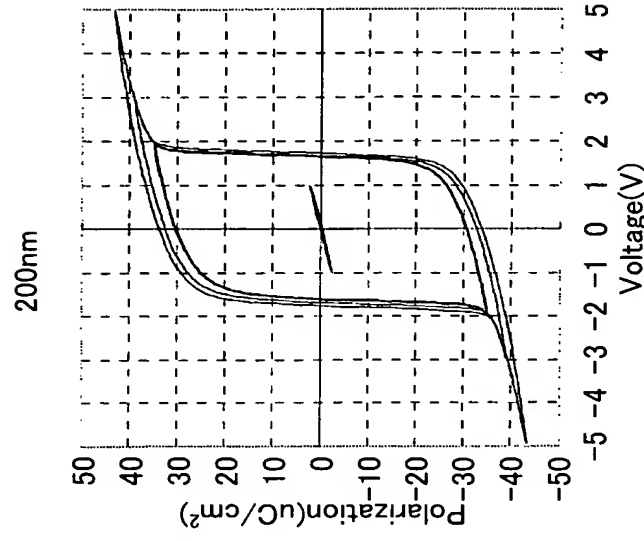


FIG. 9A

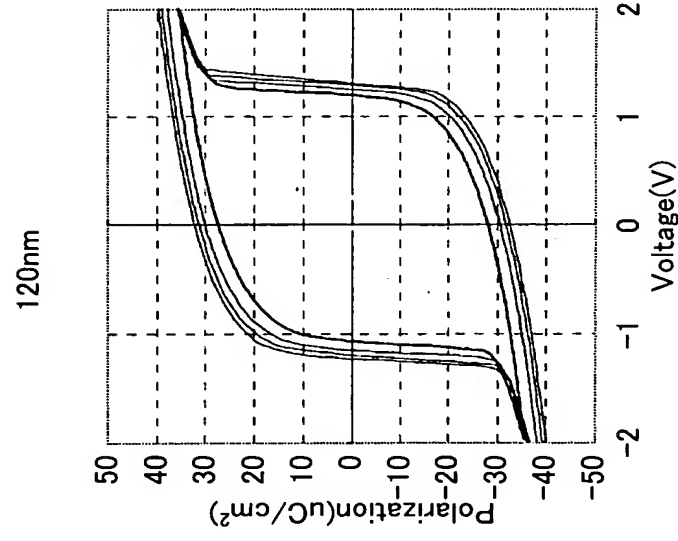


FIG. 9B

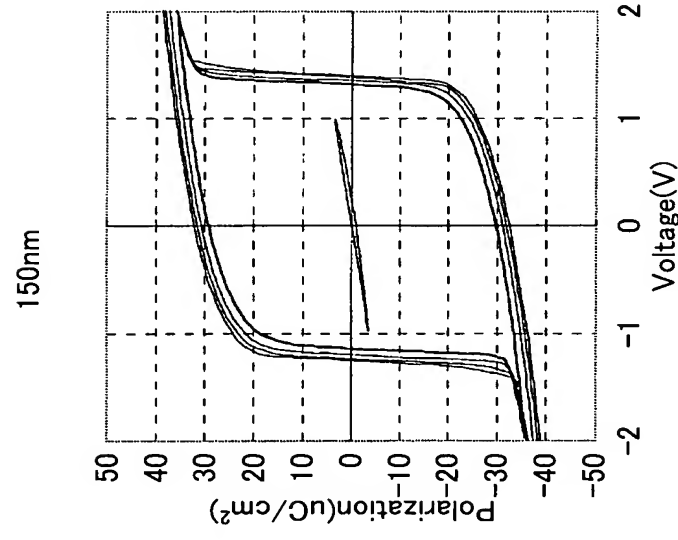


FIG. 9C

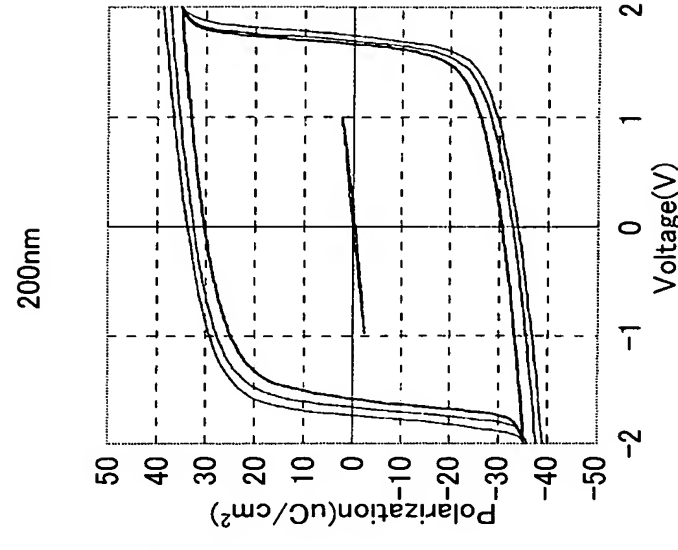


FIG. 10A

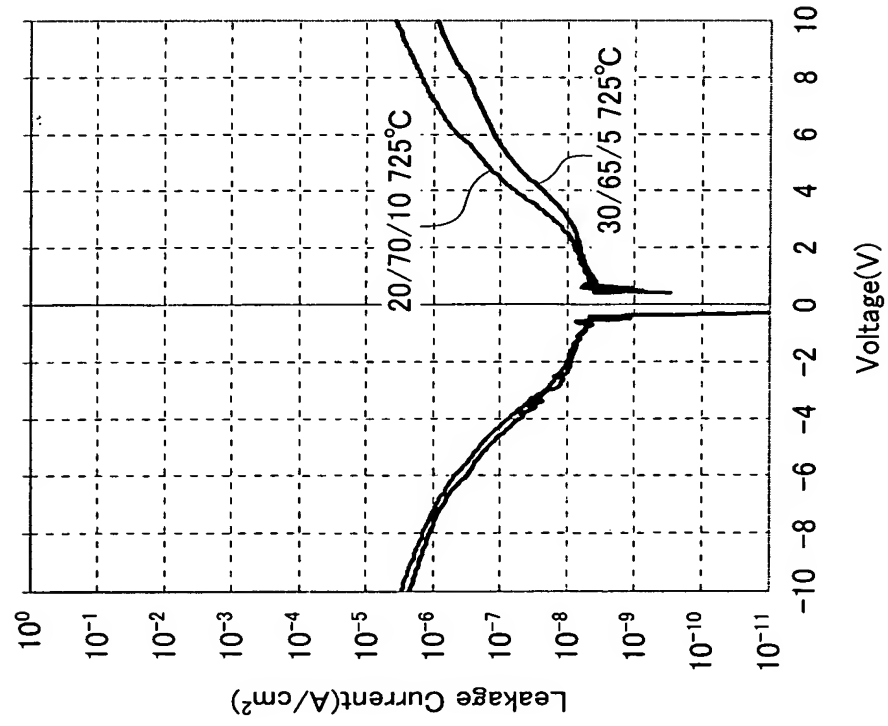


FIG. 10B

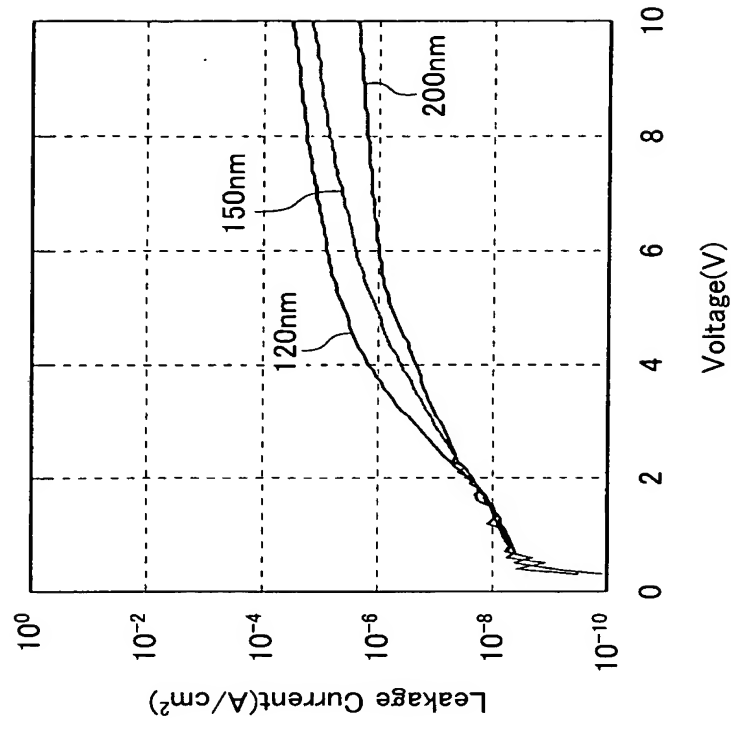


FIG. 11A

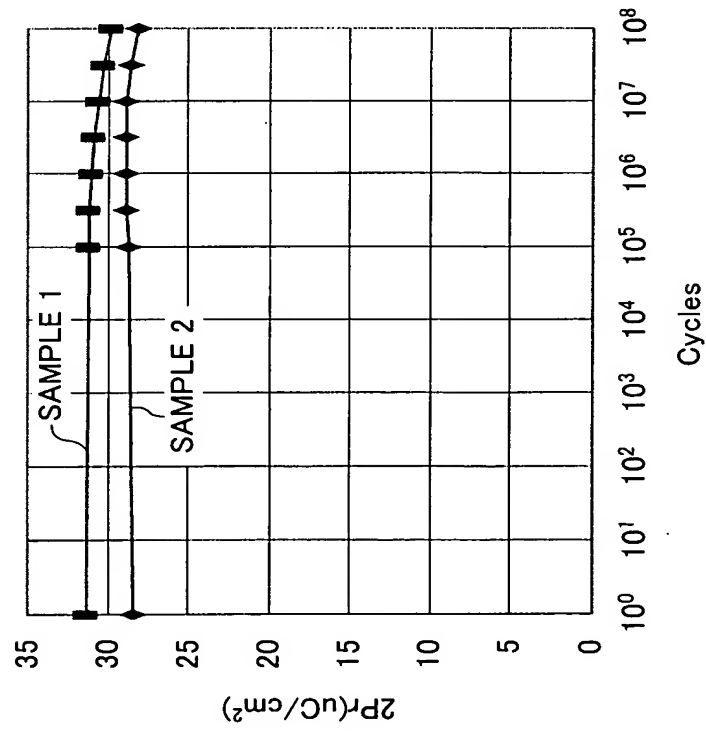


FIG. 11B

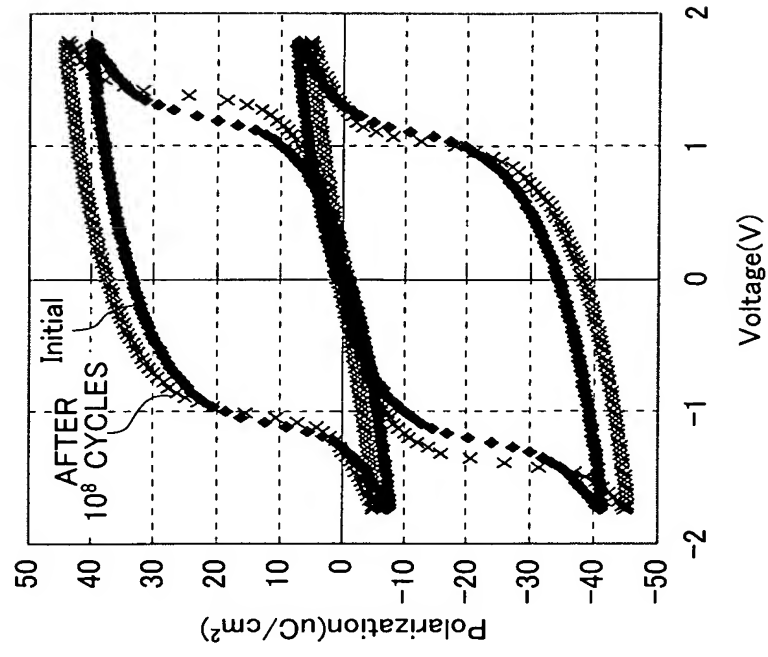


FIG. 12

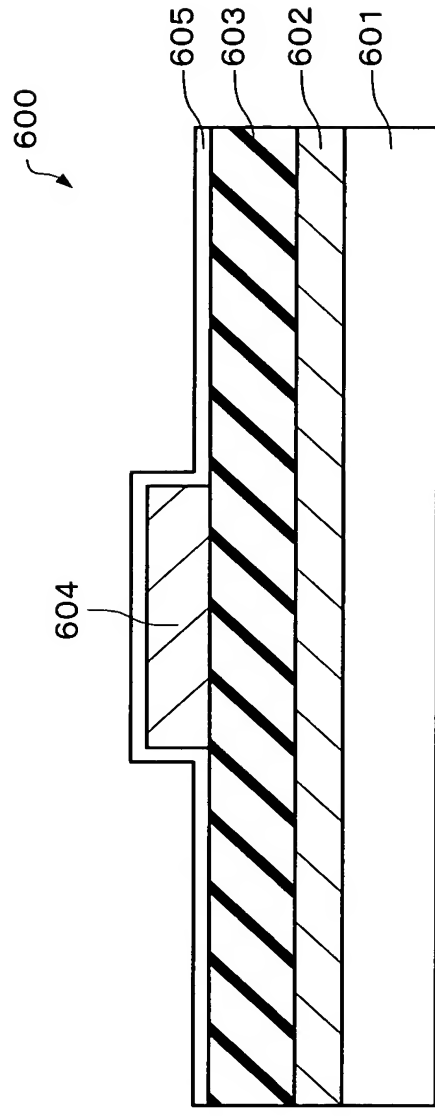


FIG. 13

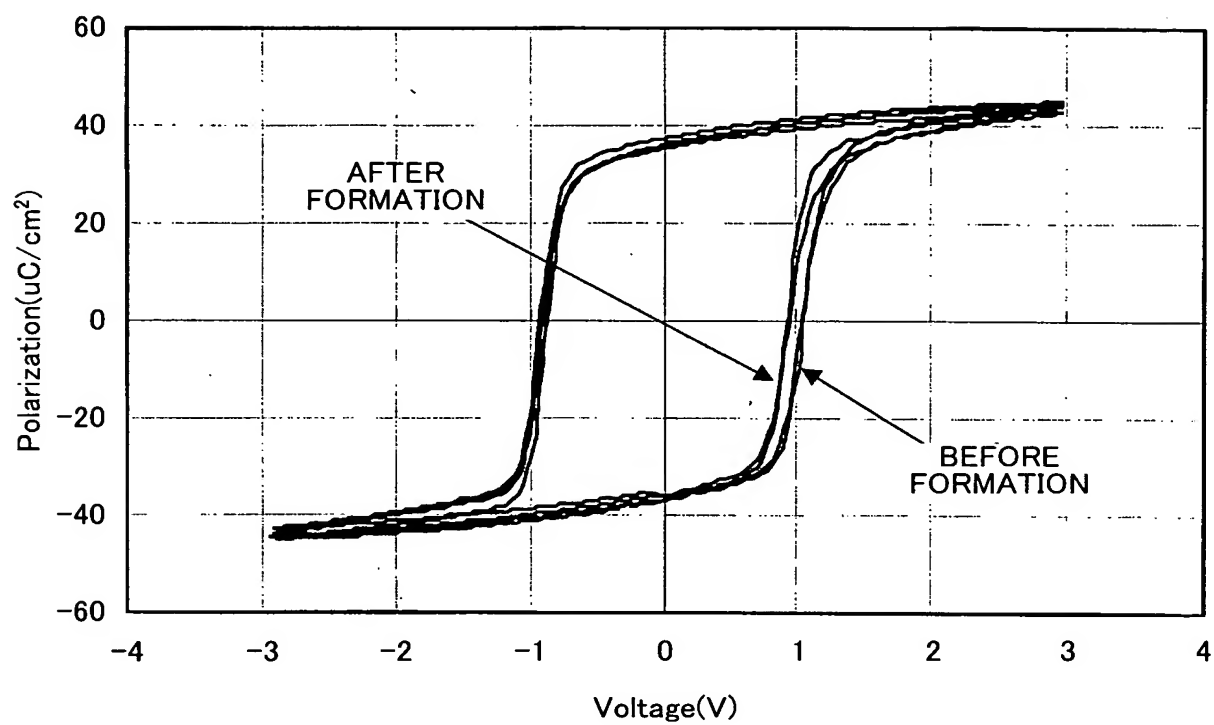


FIG. 14

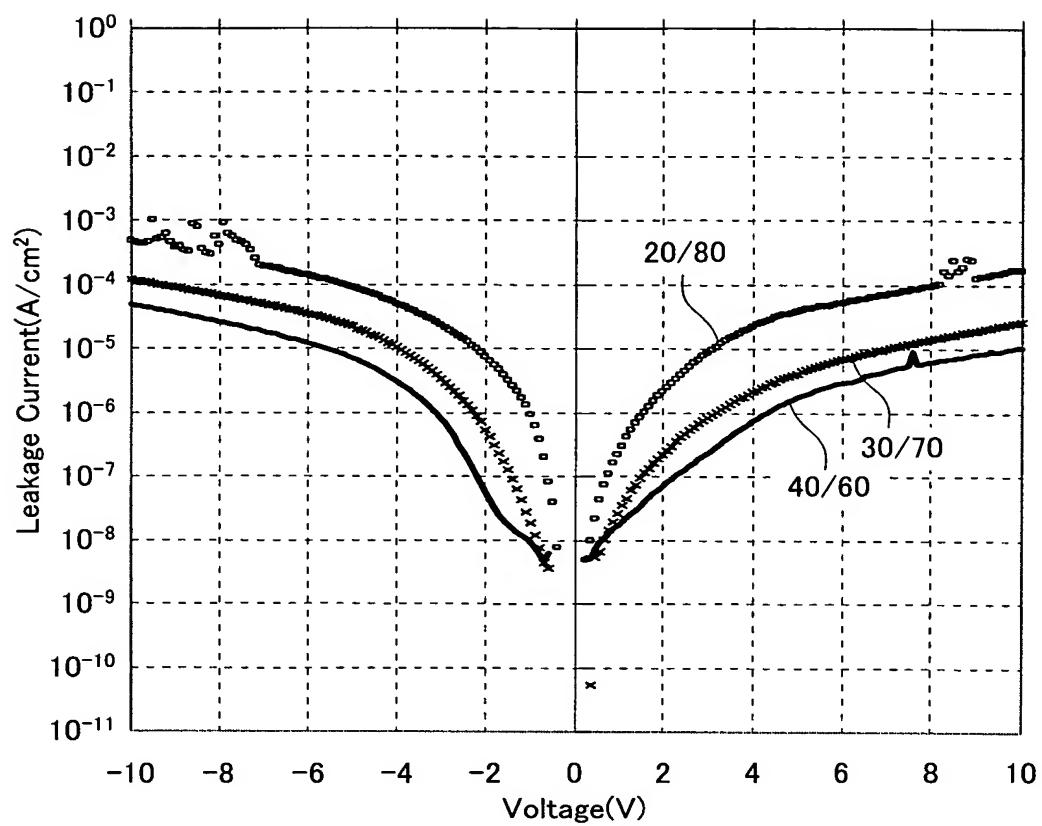


FIG. 15

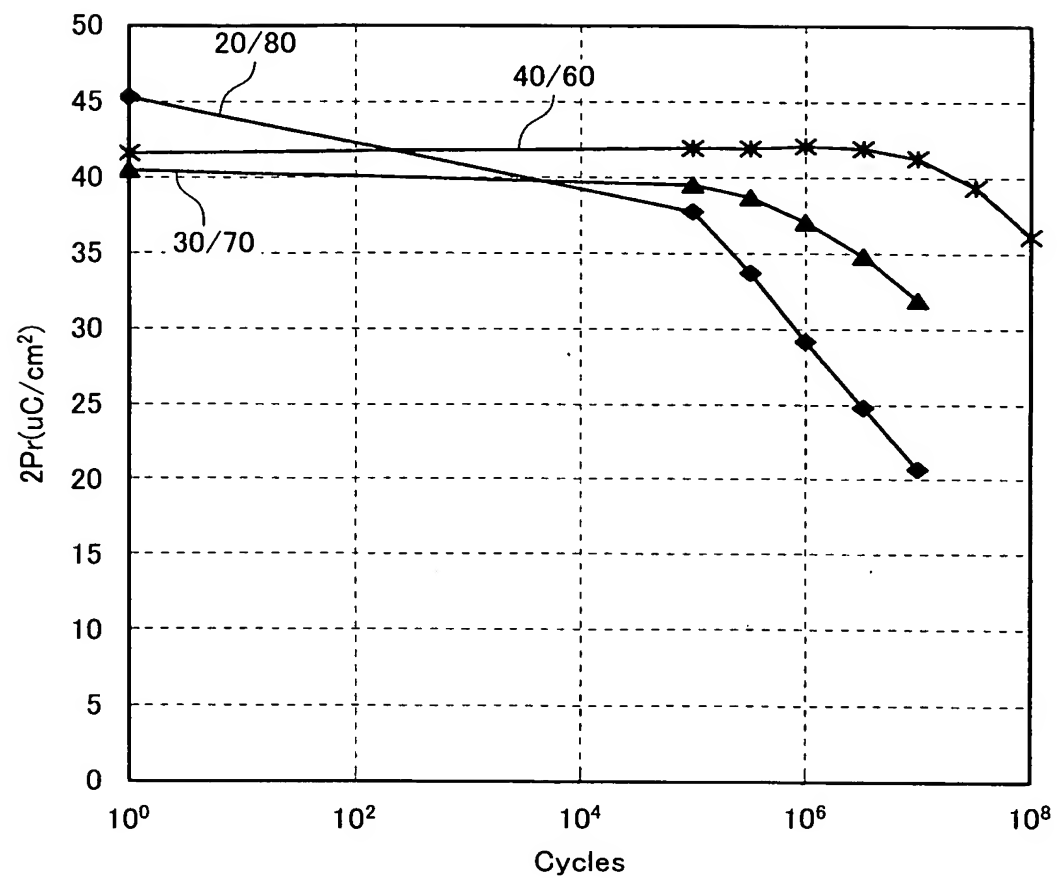




FIG. 16

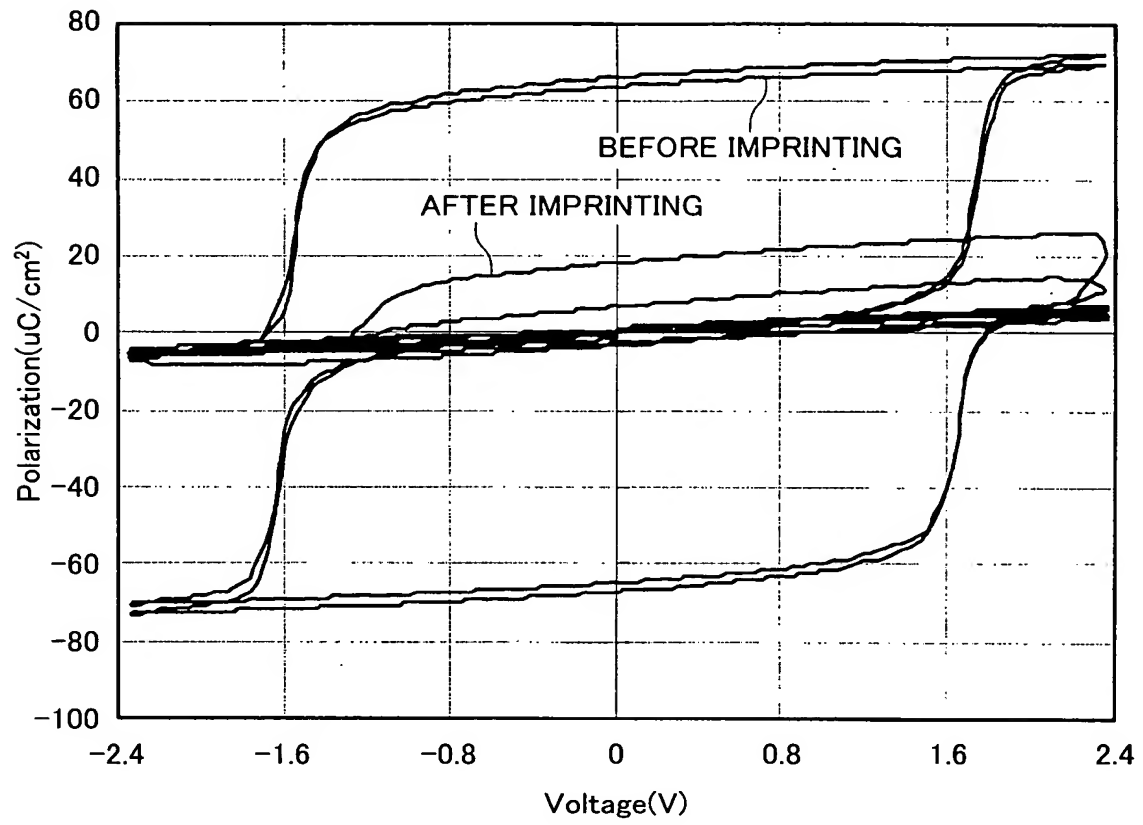


FIG. 17A

Nb=0 [mol%]

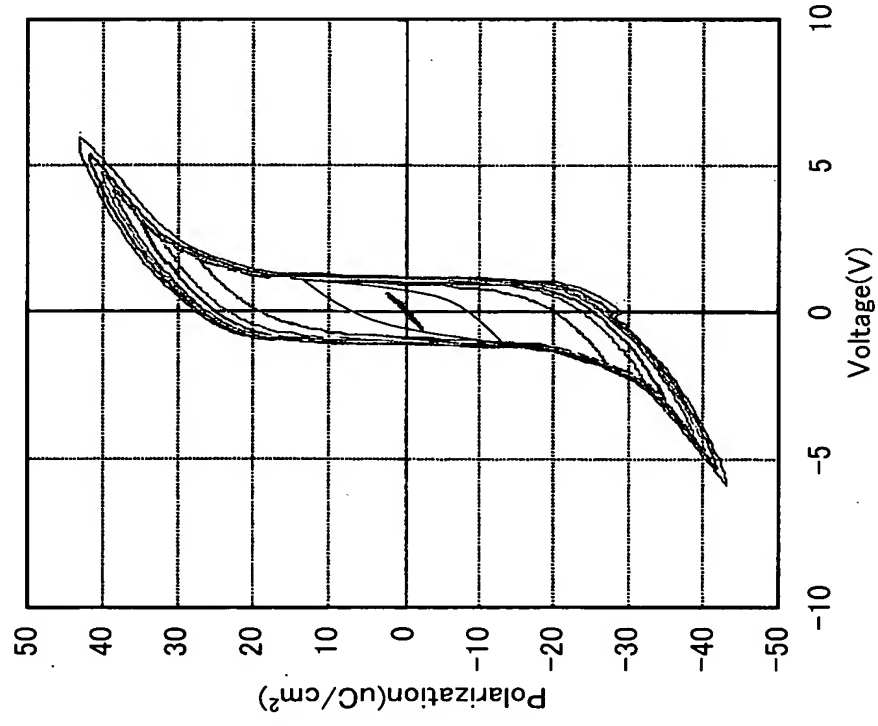


FIG. 17B

Nb=5 [mol%]

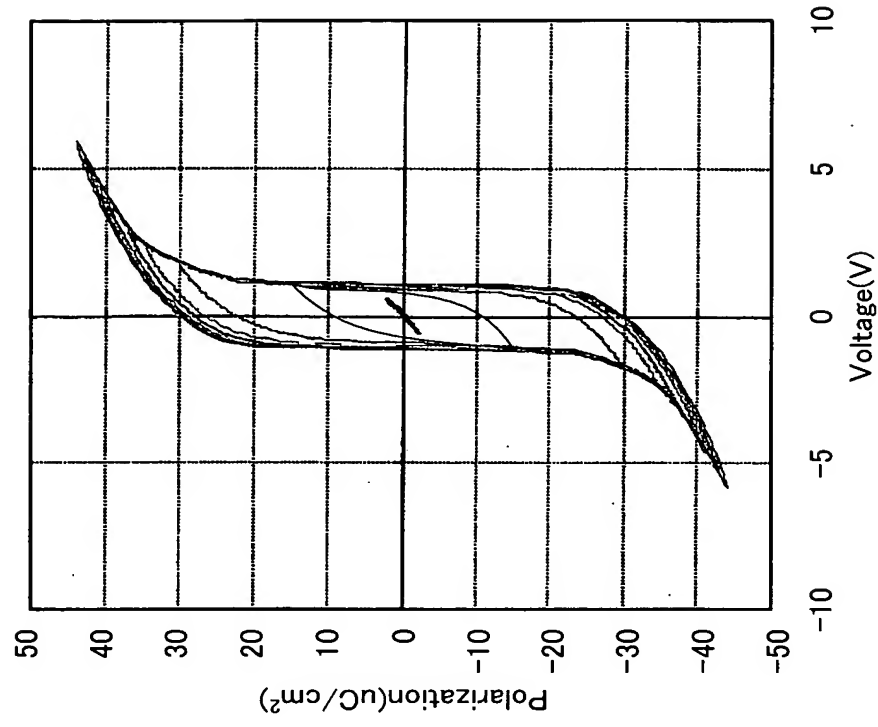


FIG. 18A

Nb=10 [mol%]

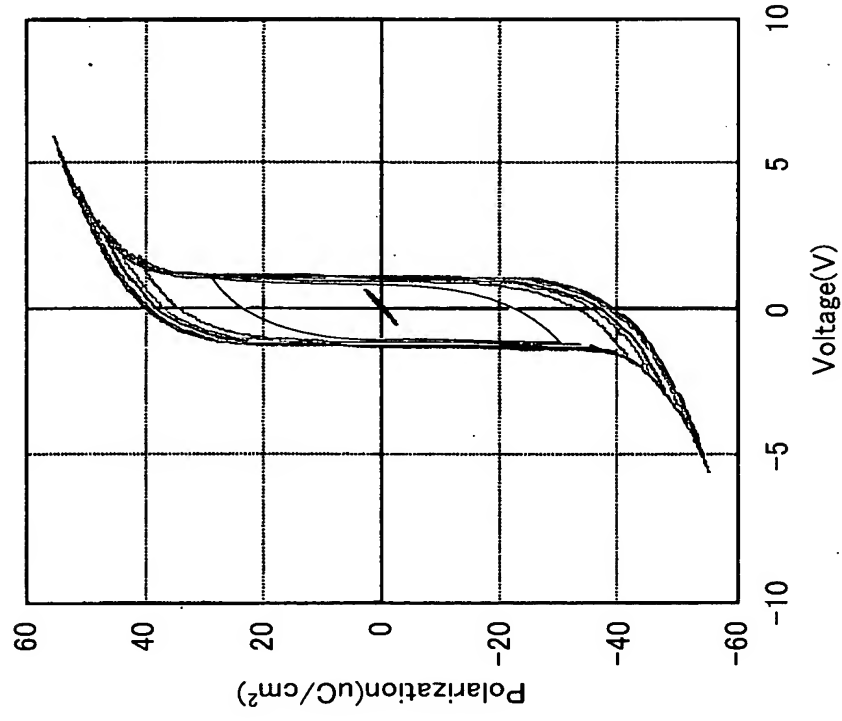


FIG. 18B

Nb=20 [mol%]

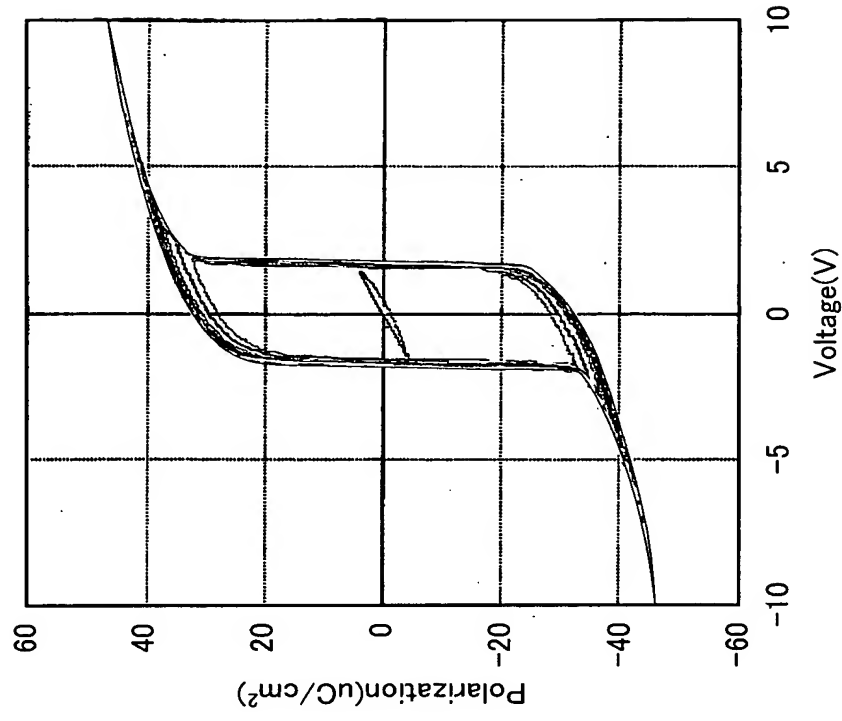


FIG. 19A

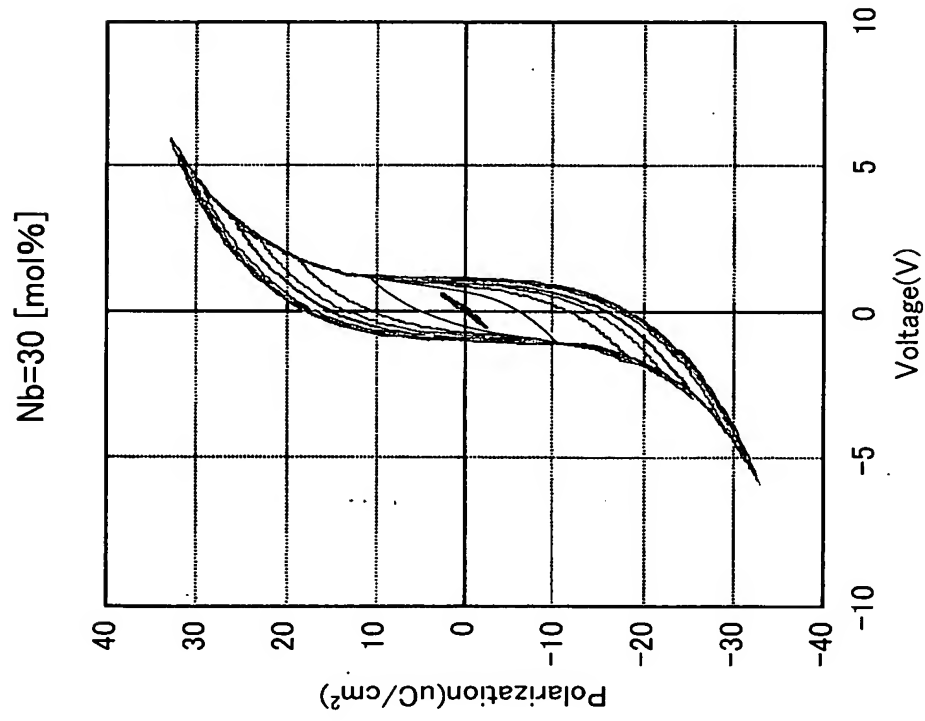


FIG. 19B

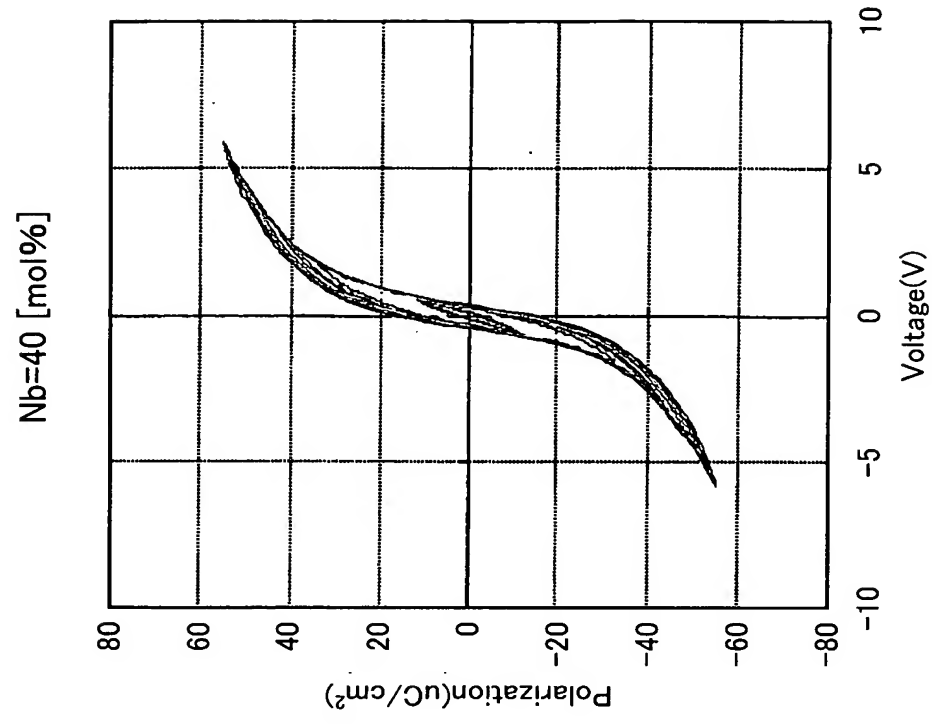


FIG. 20

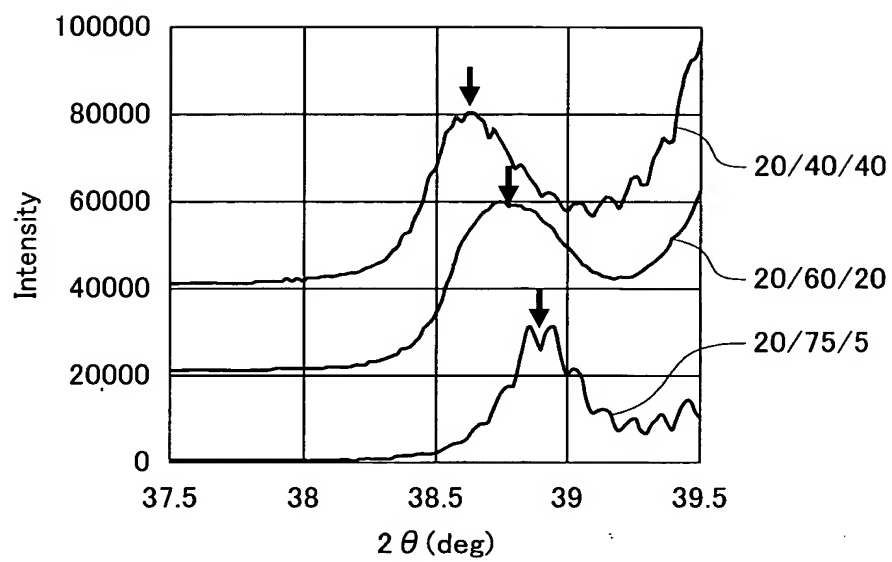


FIG. 21

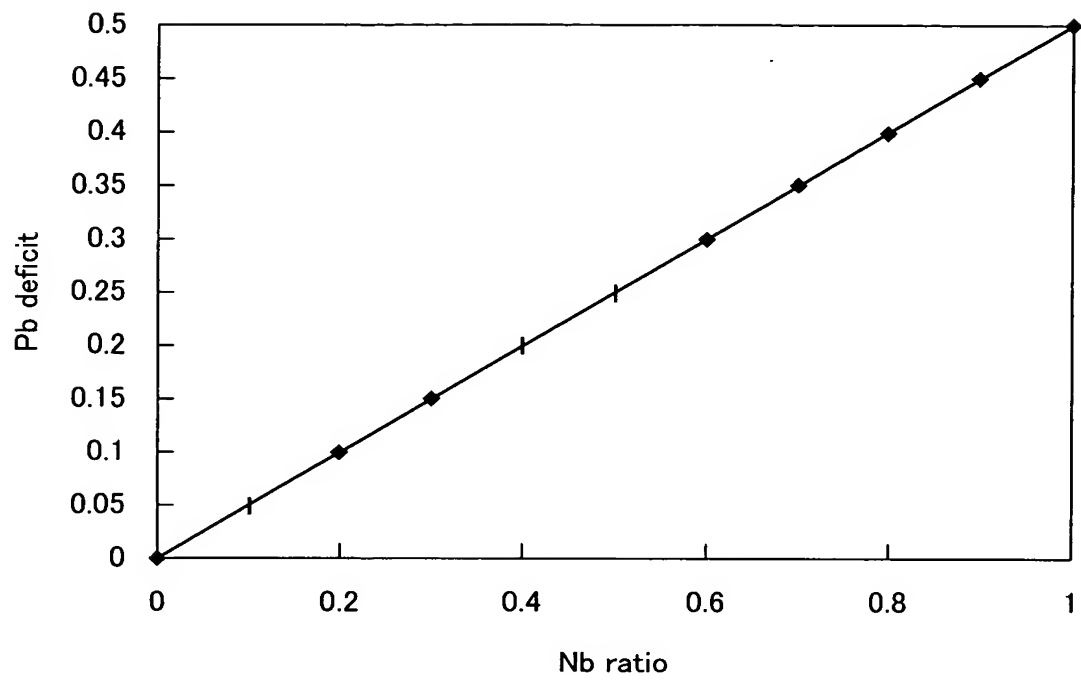


FIG. 22

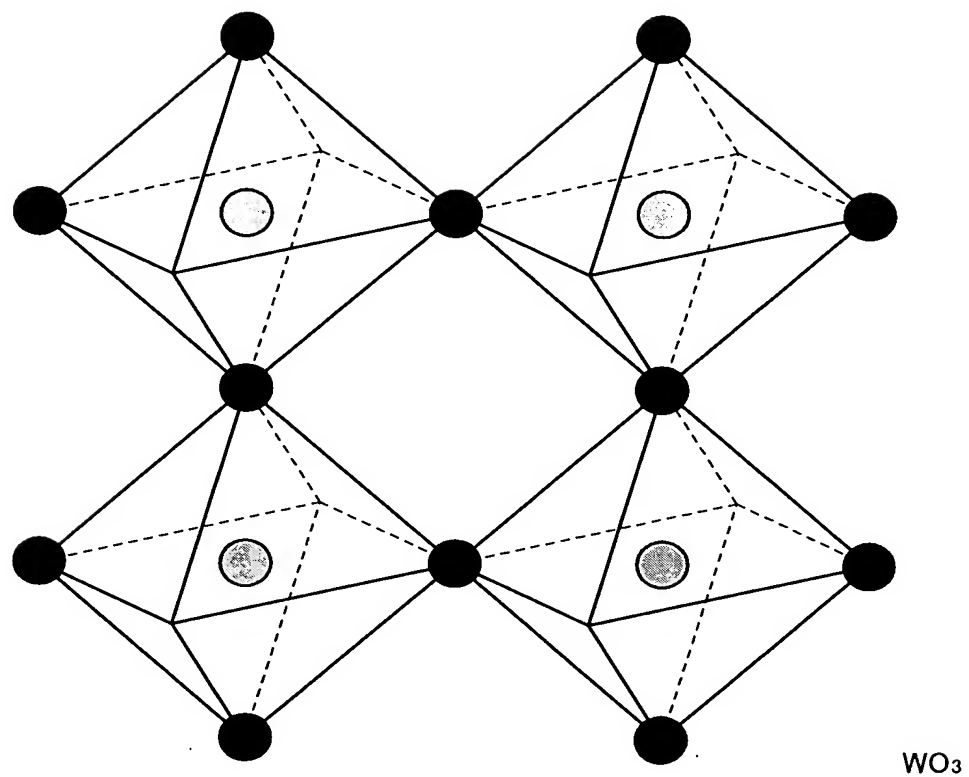


FIG. 23A

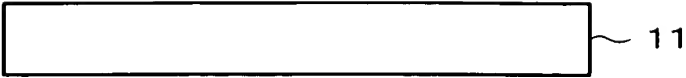


FIG. 23B

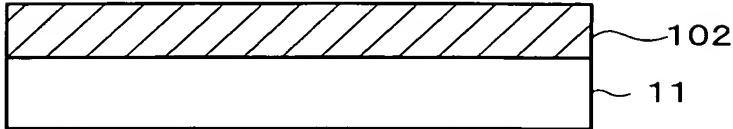


FIG. 23C

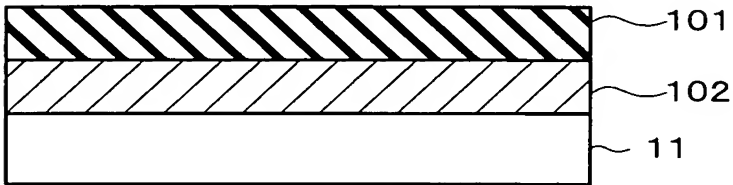




FIG. 24A

	QUANTITY OF ADDED Nb (mol%)			
	0	5	10	30
a	4.04	4.04	4.01	4.00
c	4.11	4.11	4.10	4.03
V(abc)	67.0818	67.0818	65.9284	64.8000
V/V <sub>0</sub>	100.0	100.0	98.3	96.1

FIG. 24B

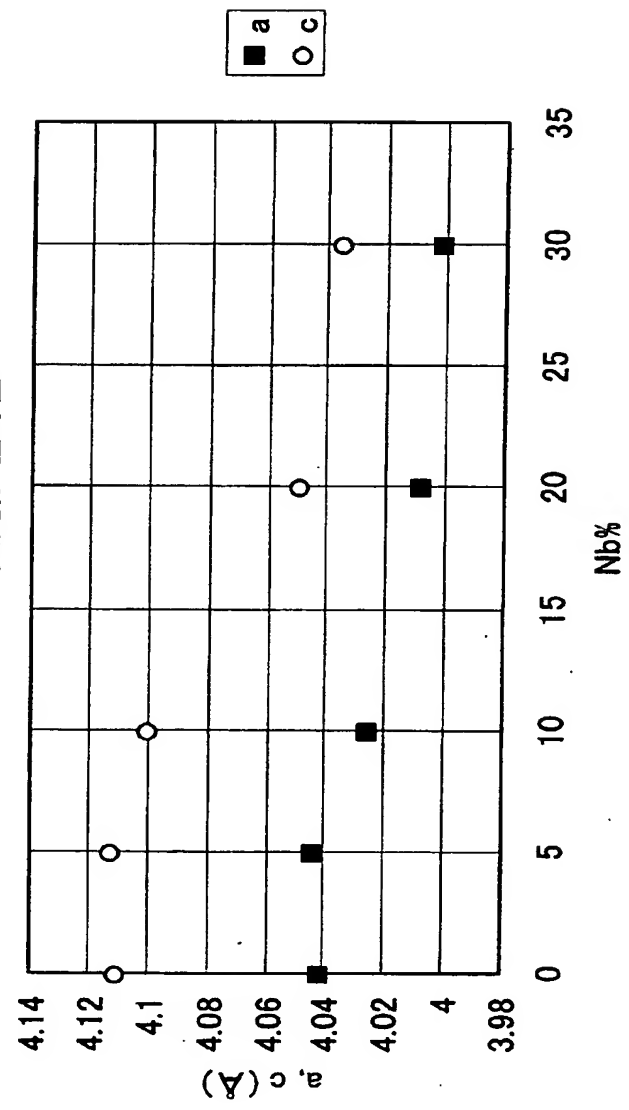


FIG. 25

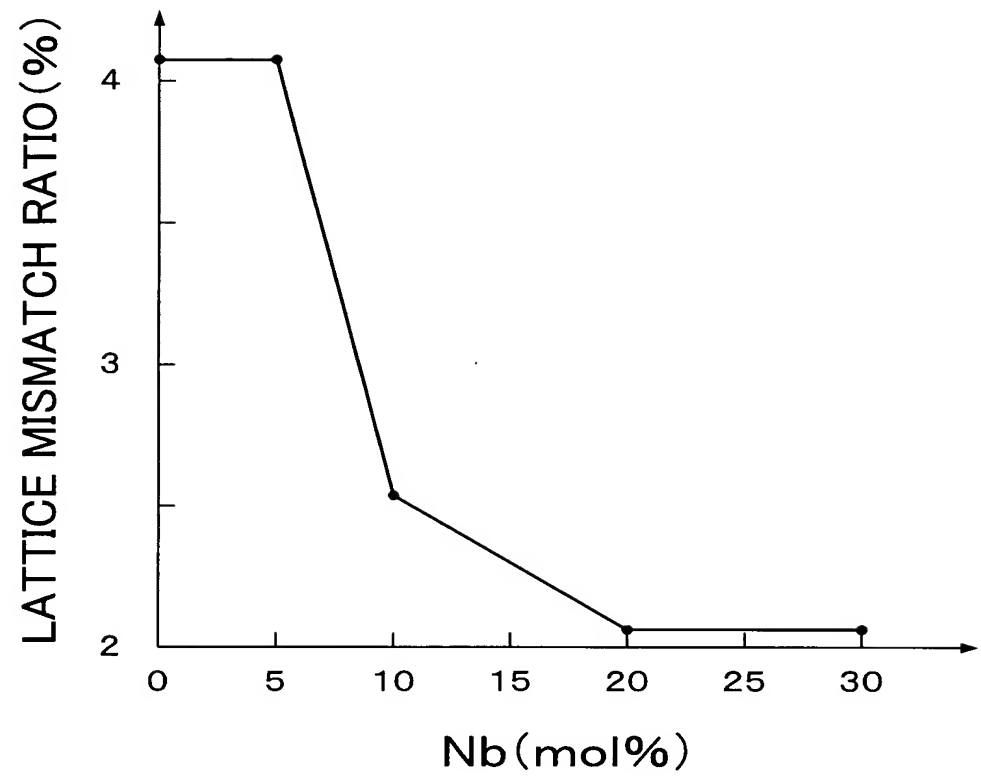


FIG. 26

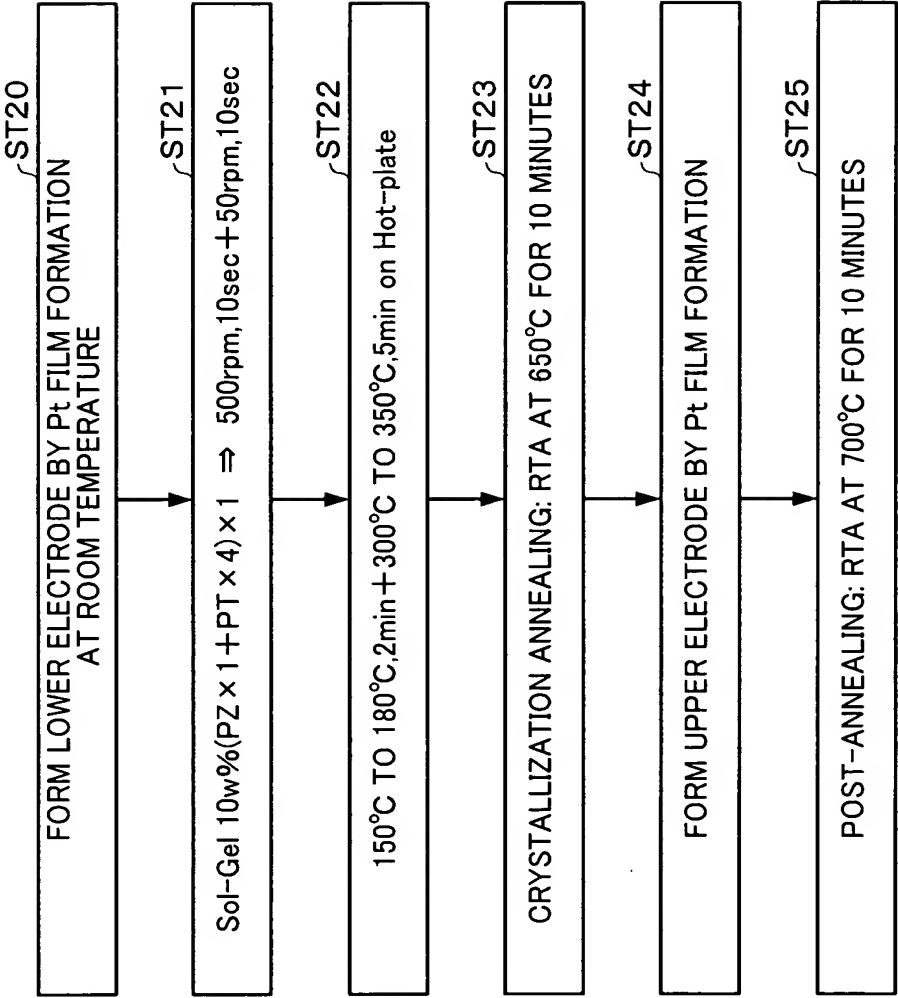


FIG. 27A

Stoichiometry



FIG. 27B

5% excess

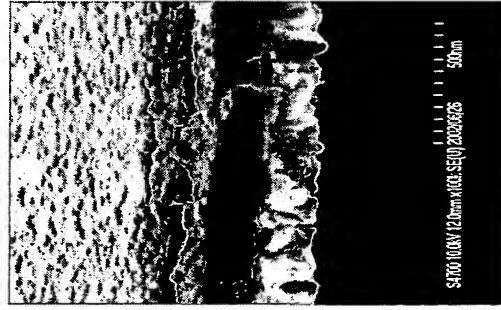


FIG. 27C

10% excess

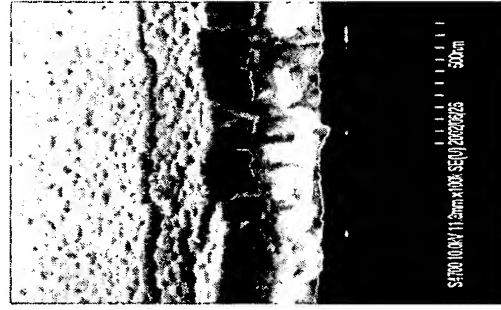


FIG. 27D

15% excess

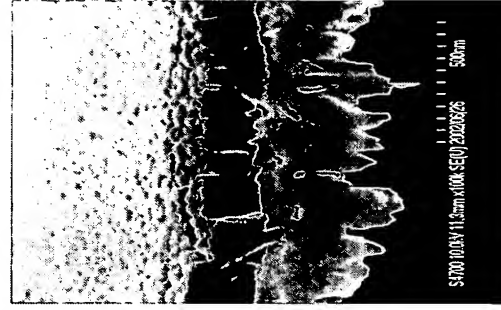


FIG. 27E

20% excess



FIG. 28A

FIG. 28B

FIG. 28C

FIG. 28D

FIG. 28E

Stoichiometry

5% excess

10% excess

15% excess

20% excess

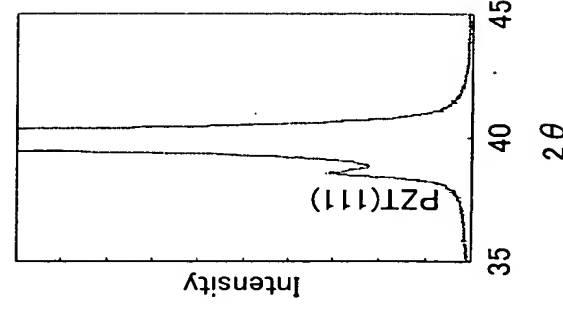
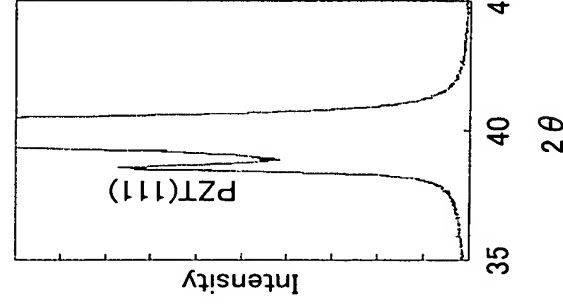
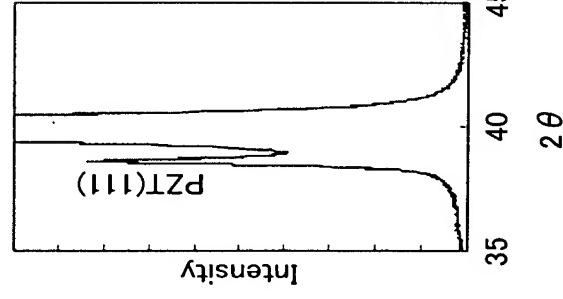
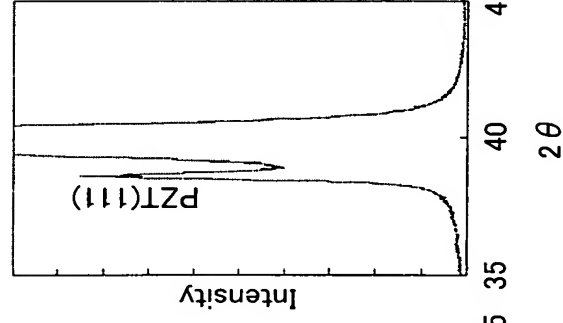
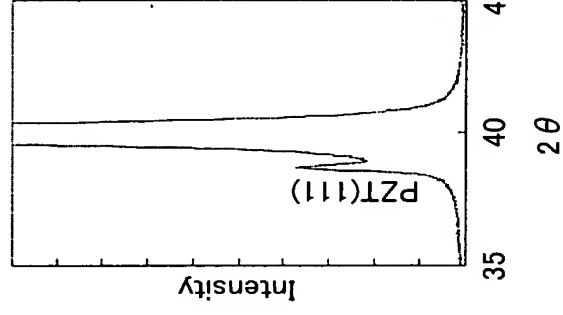


FIG. 29A

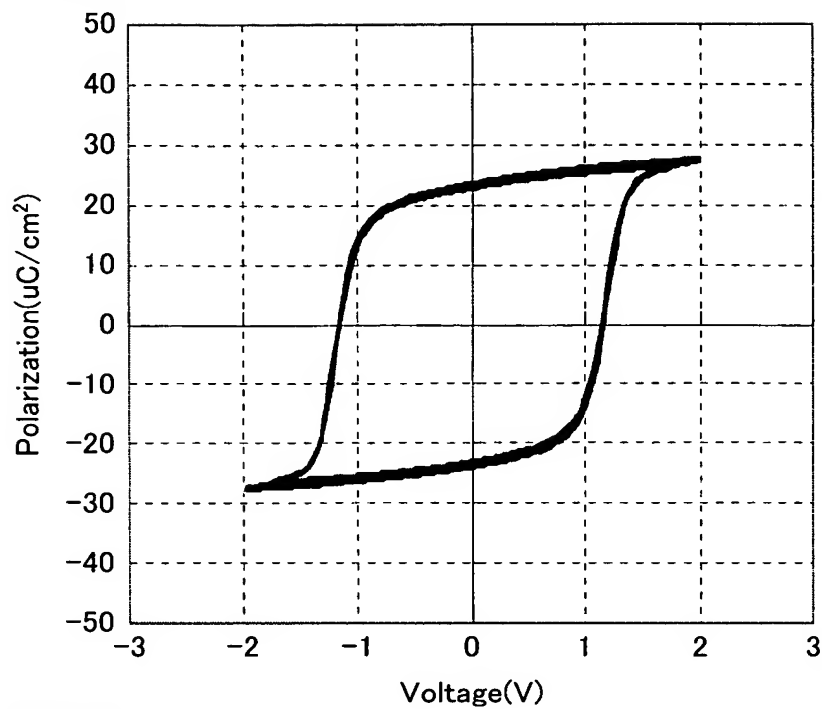


FIG. 29B

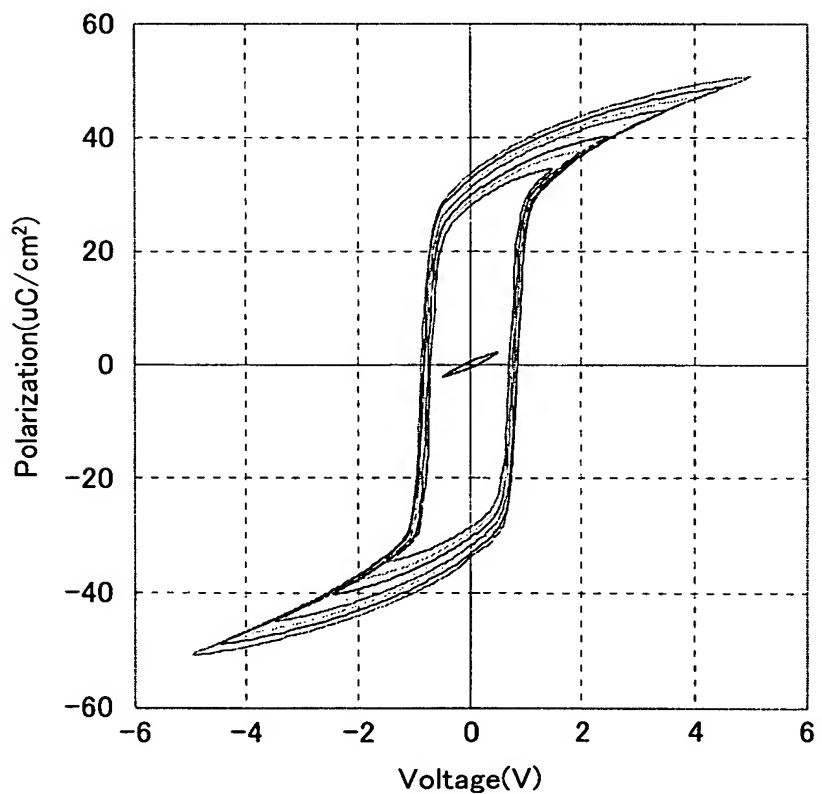


FIG. 30

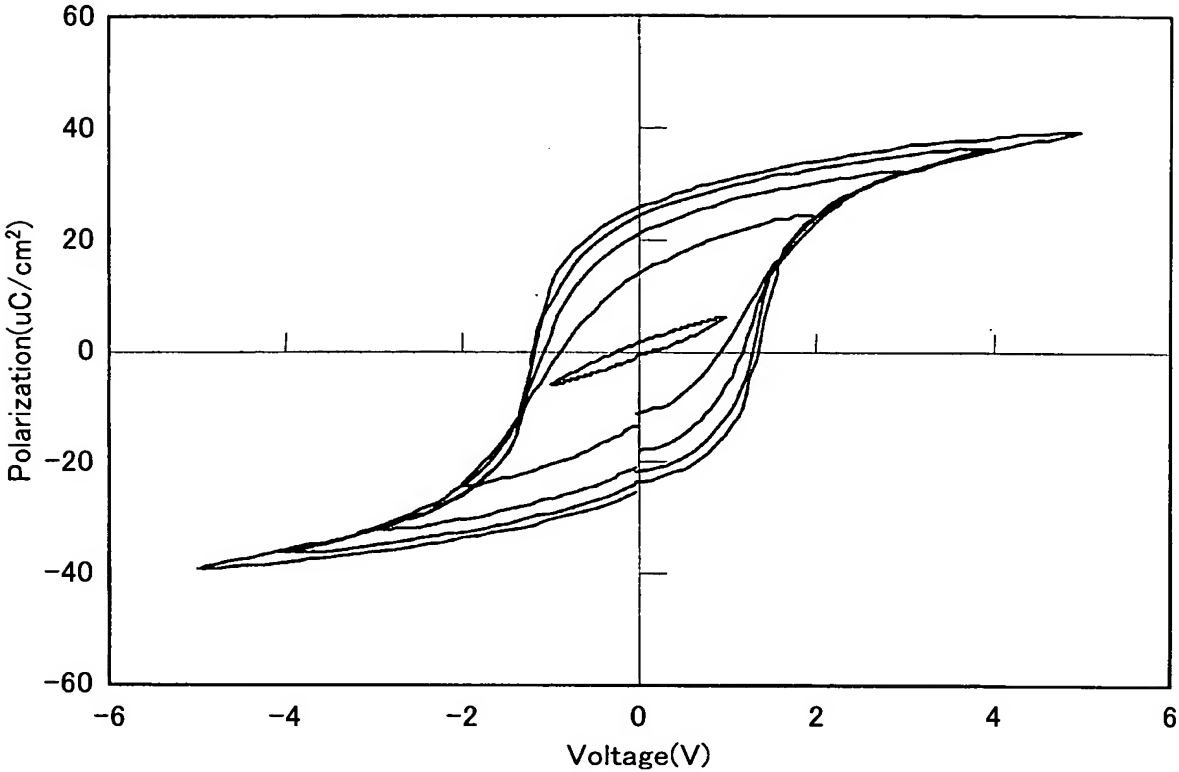


FIG. 31A

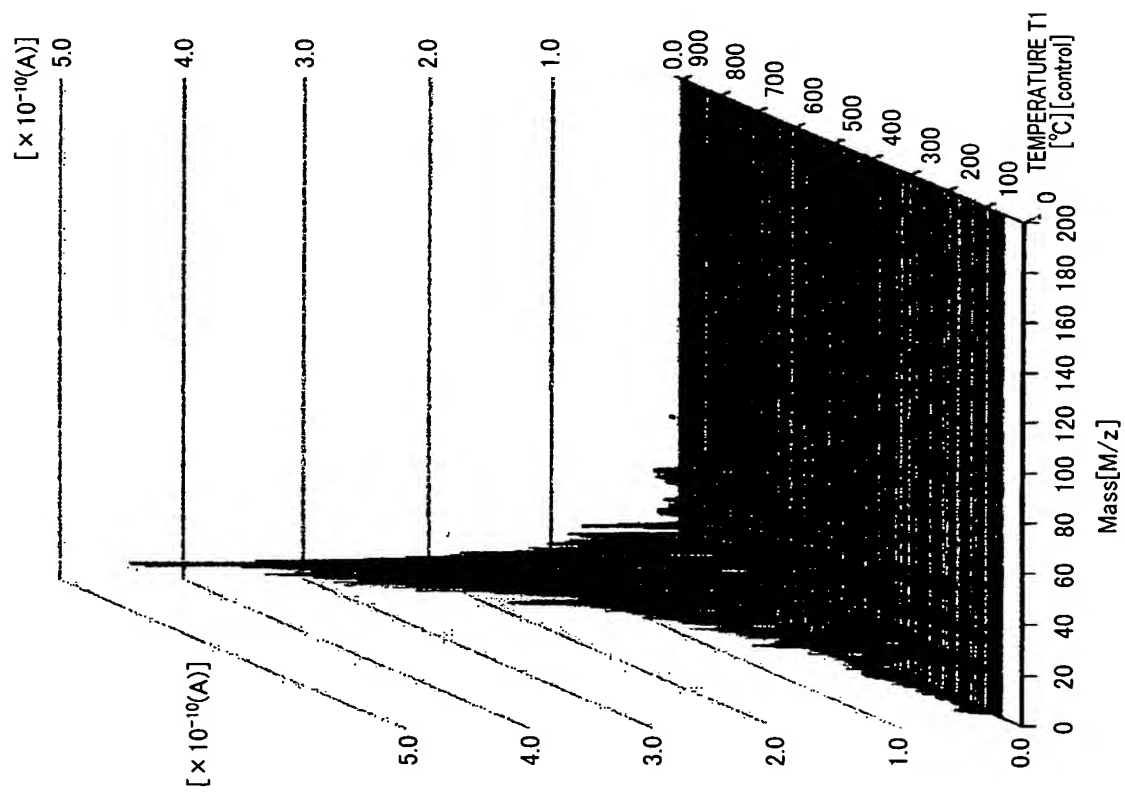


FIG. 31B

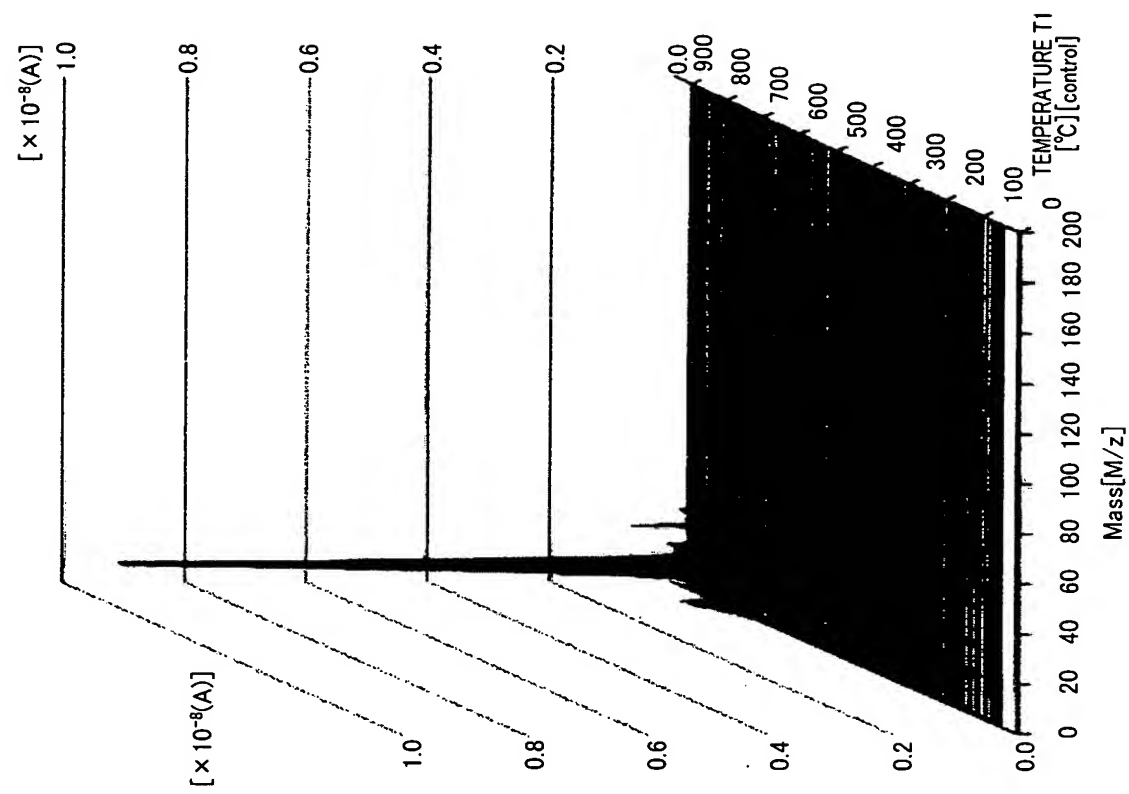




FIG. 32A

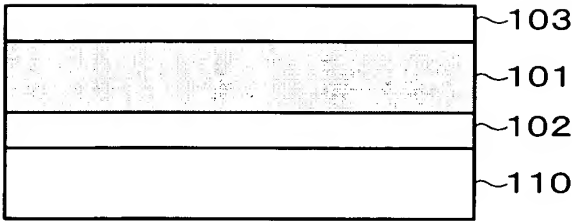


FIG. 32B

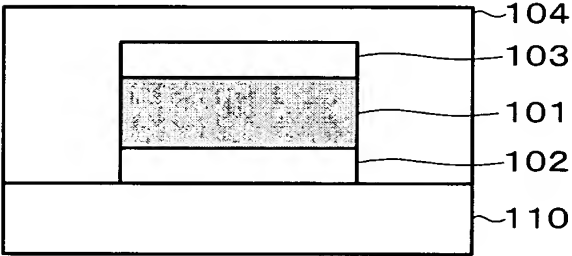
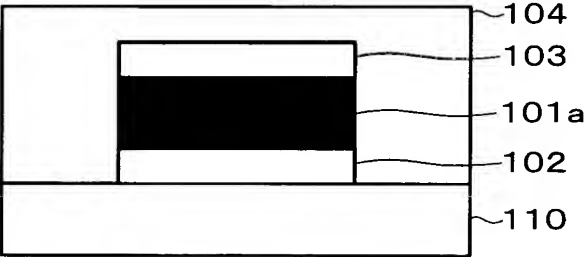
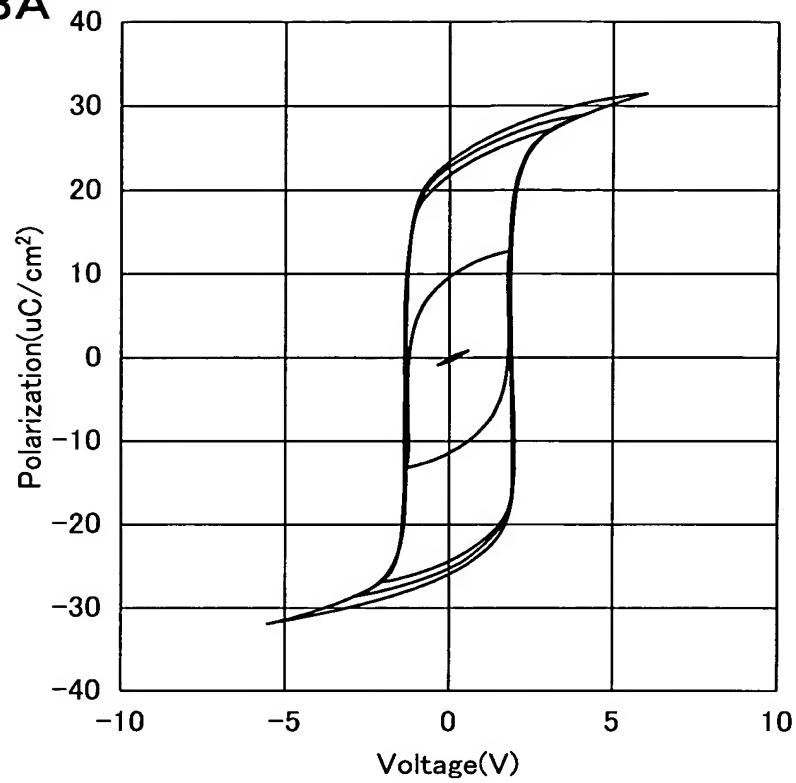


FIG. 32C



**FIG. 33A**



**FIG. 33B**

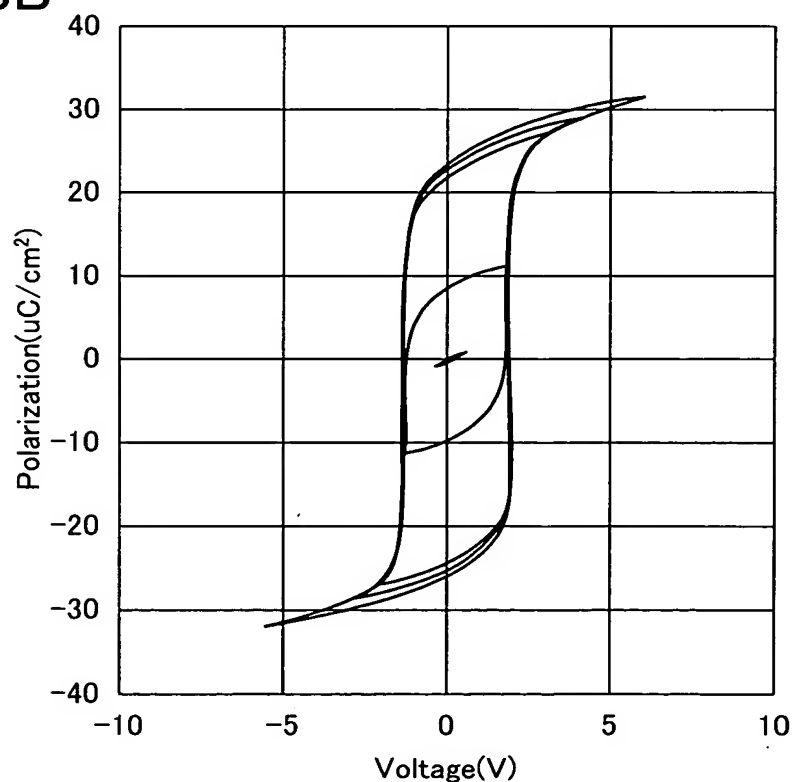


FIG. 34

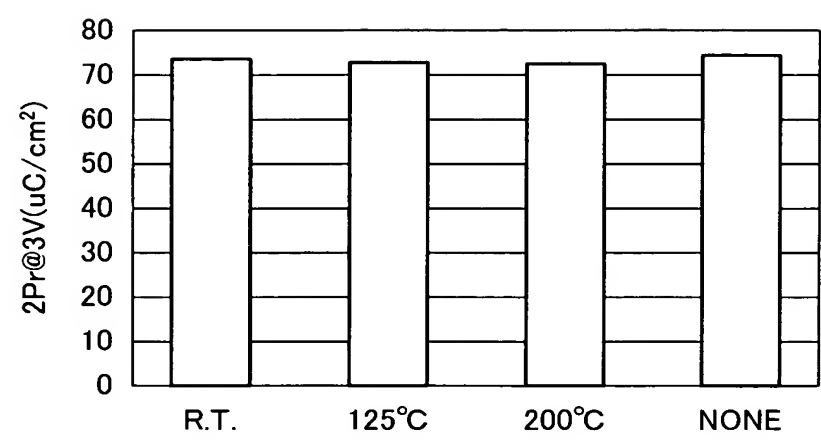


FIG. 35A

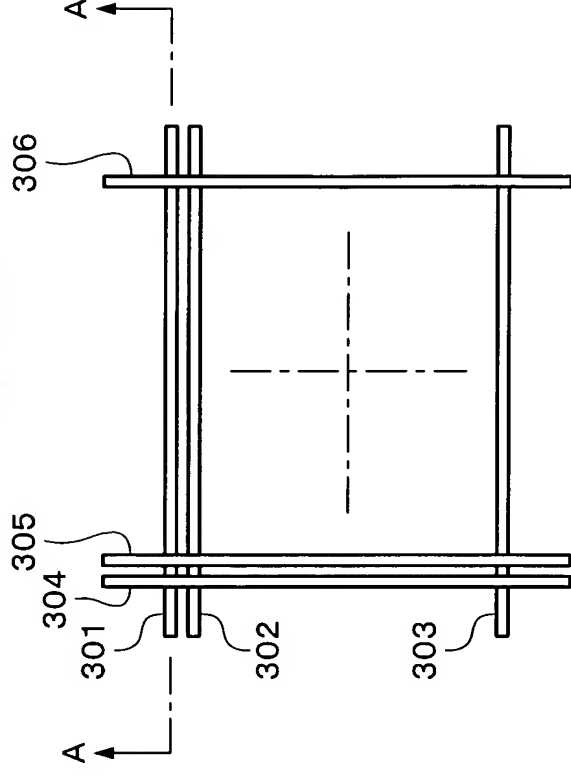


FIG. 35B

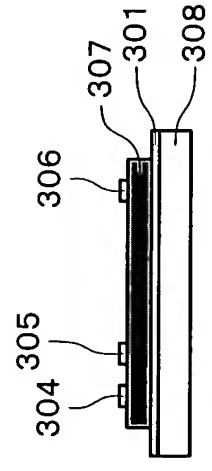




FIG. 37A

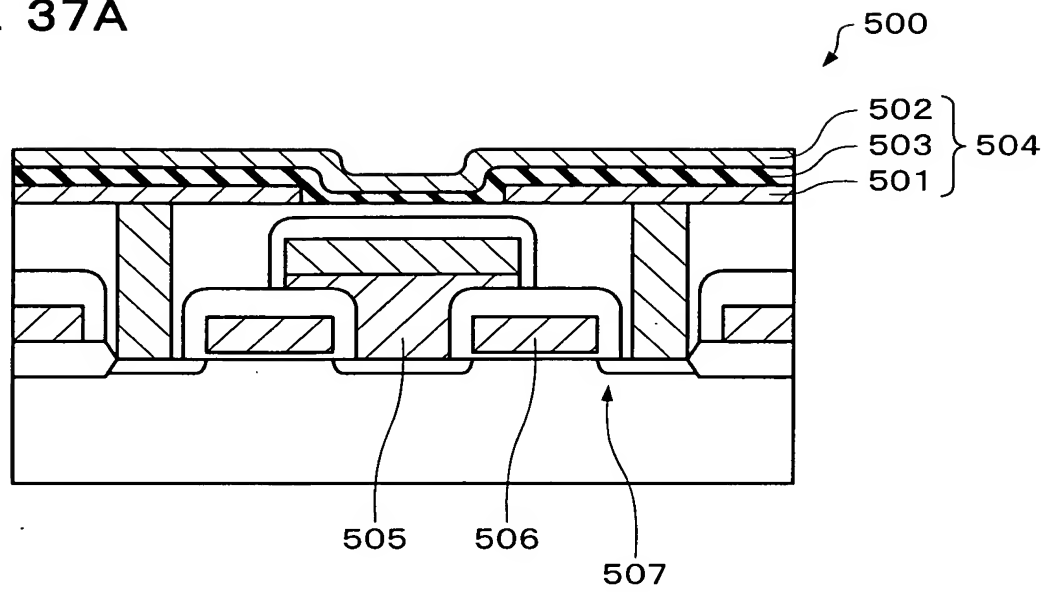


FIG. 37B

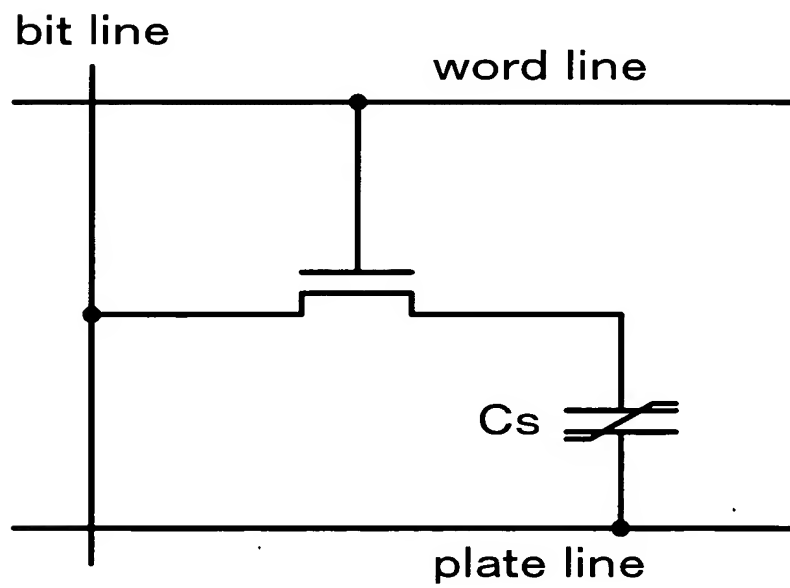


FIG. 38A

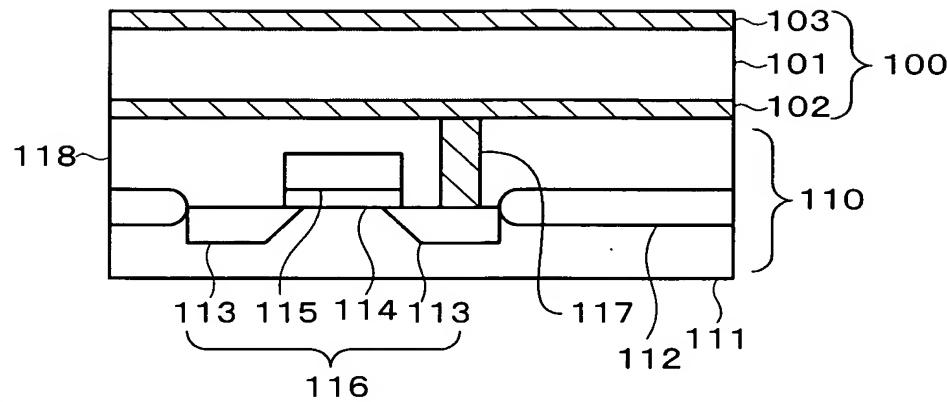


FIG. 38B

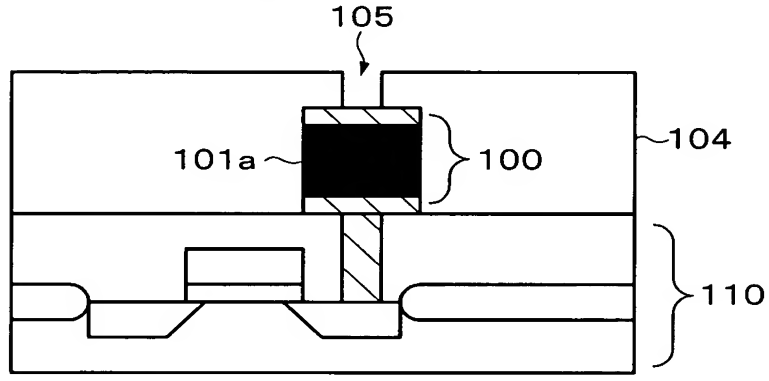


FIG. 38C

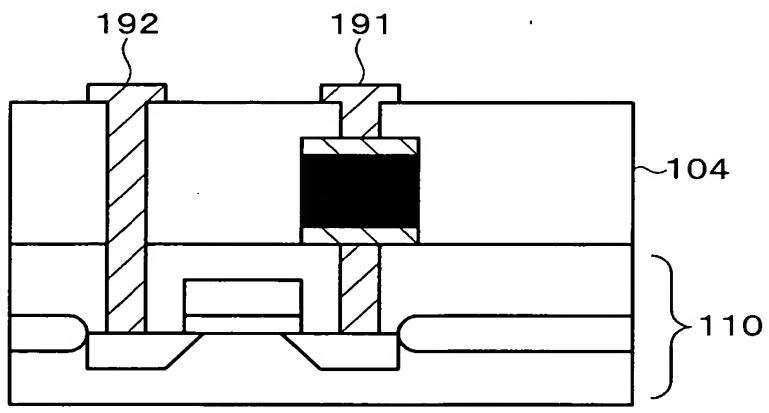


FIG. 39

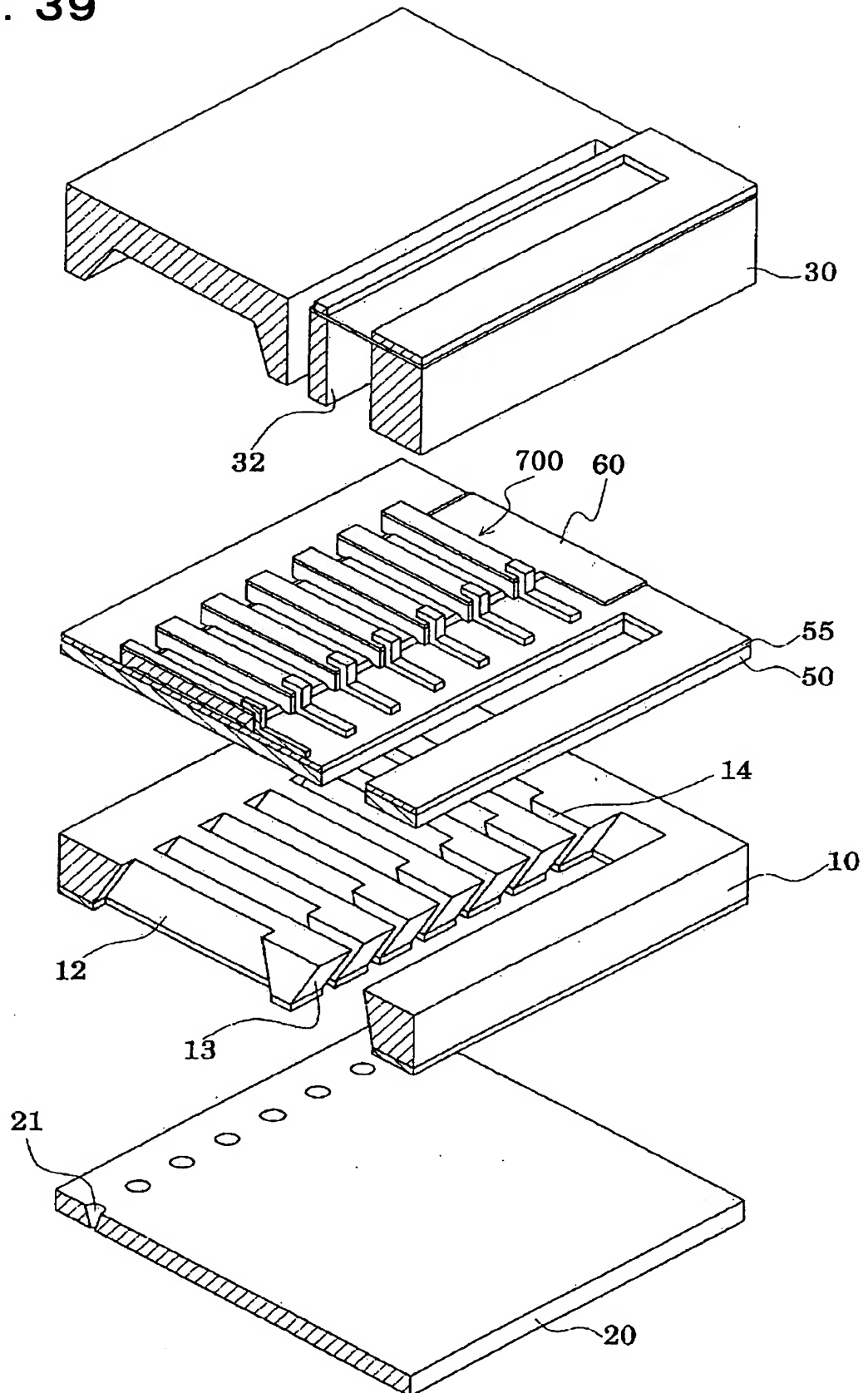




FIG. 40A

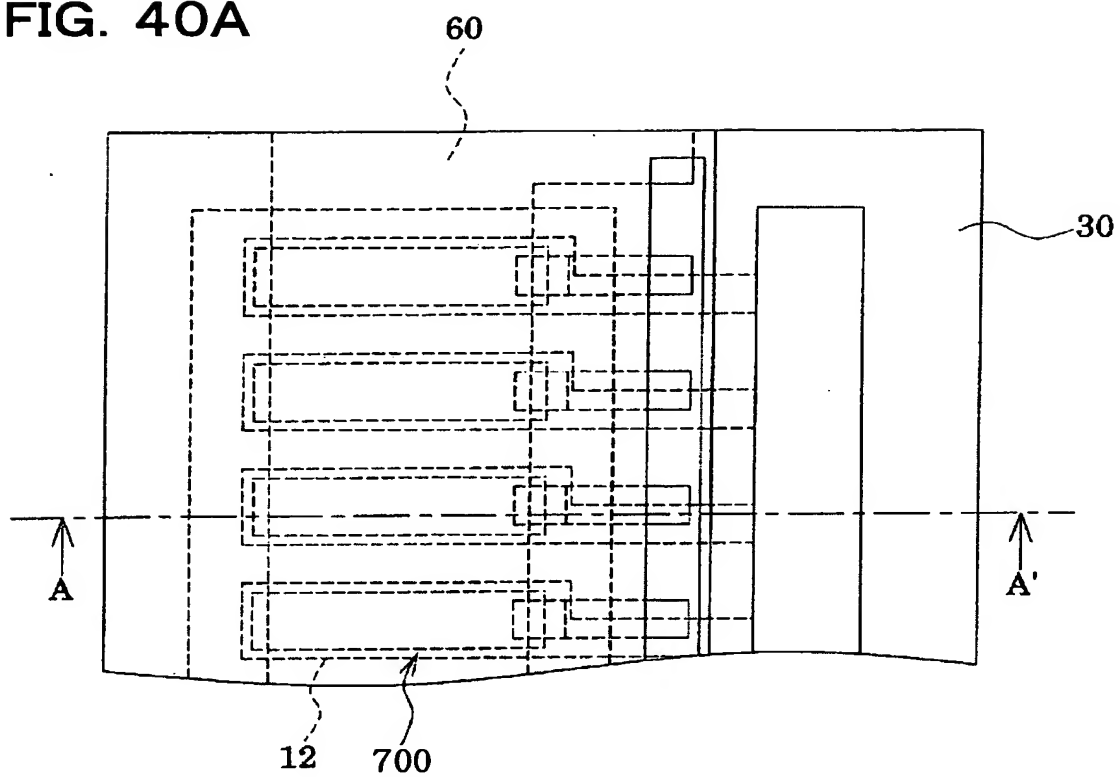


FIG. 40B

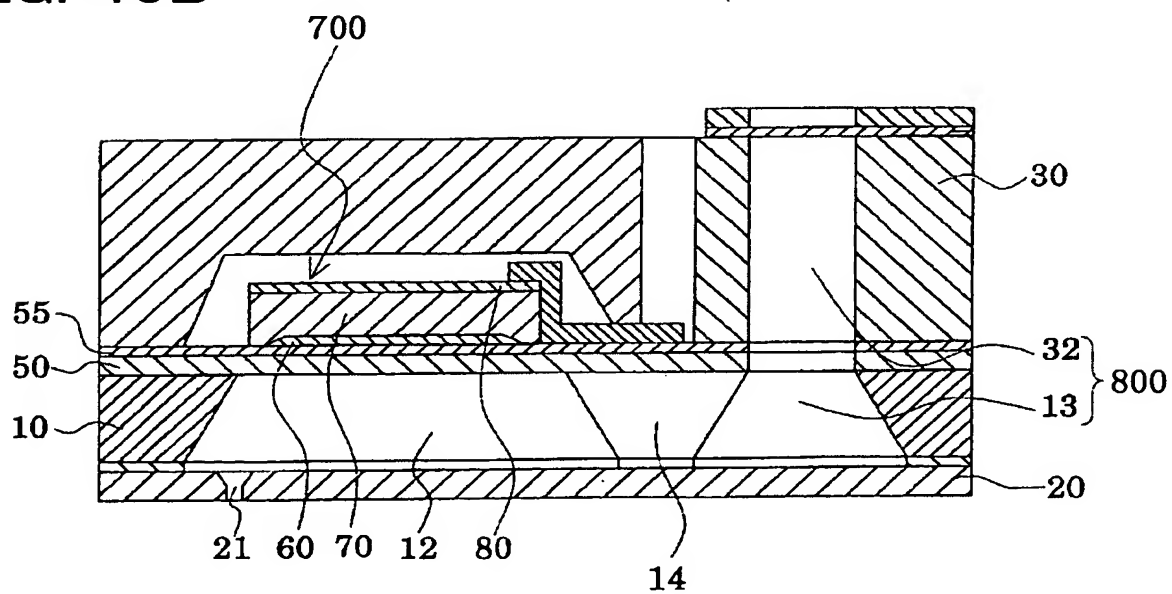


FIG. 41

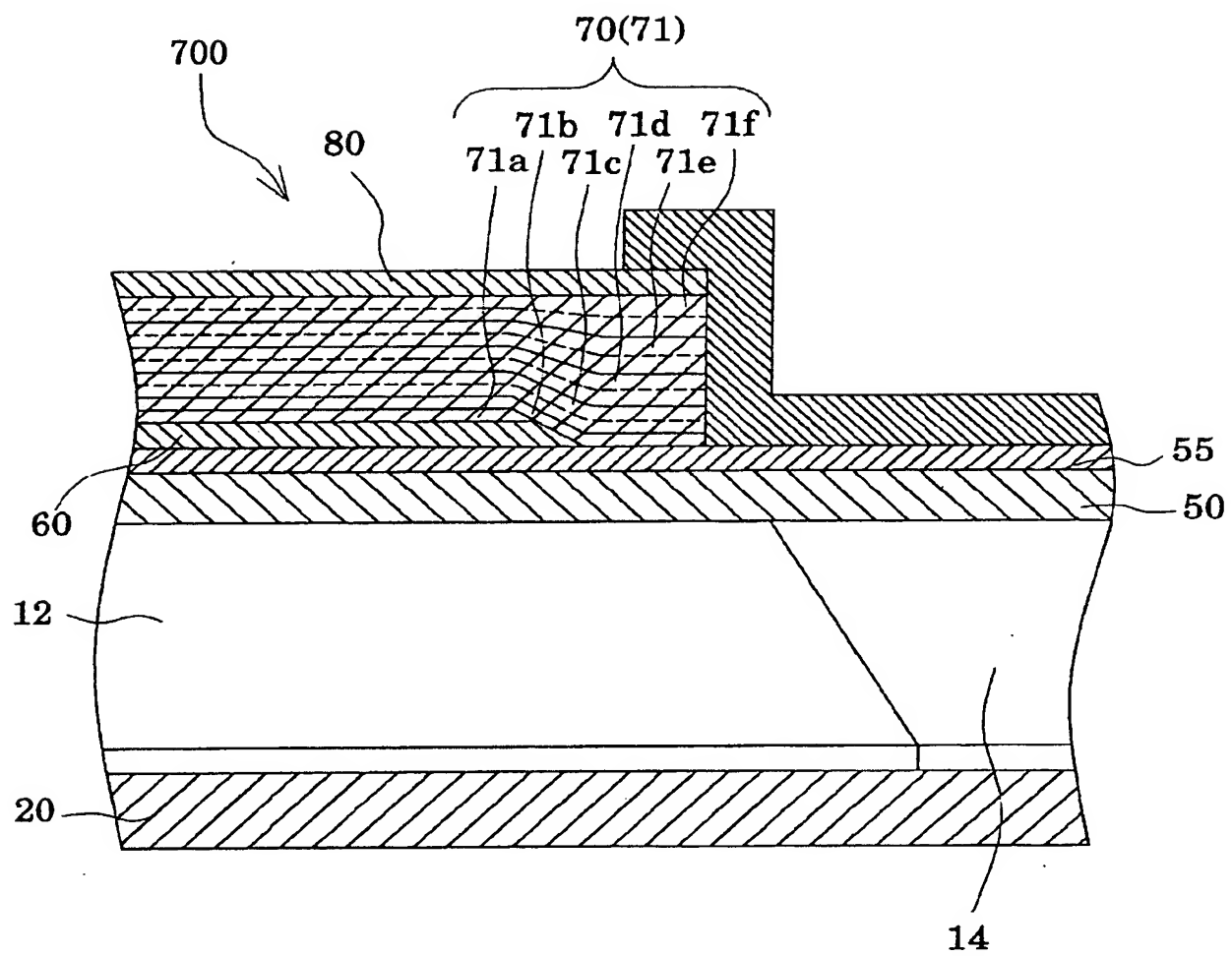


FIG. 42

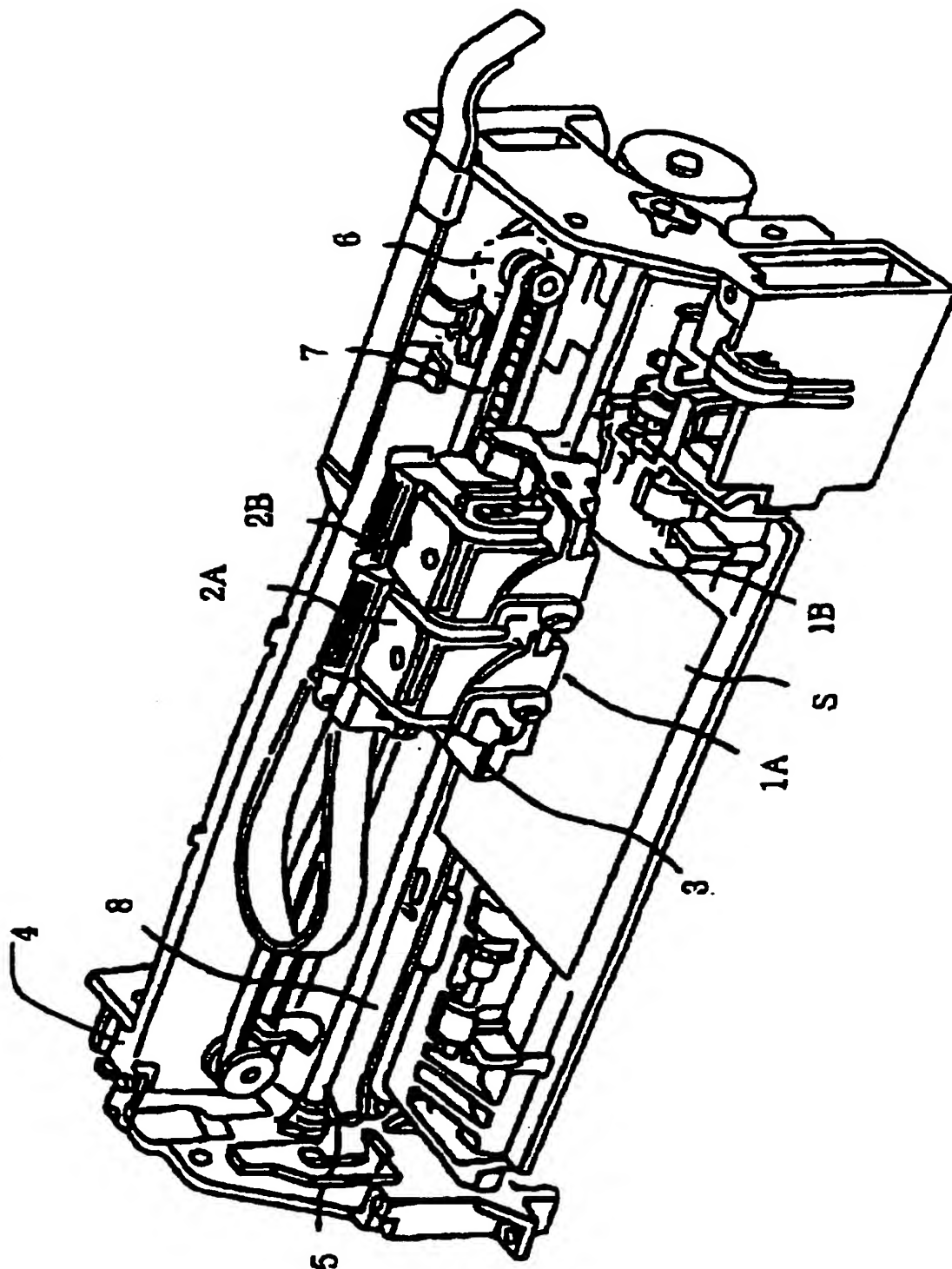


FIG. 43A

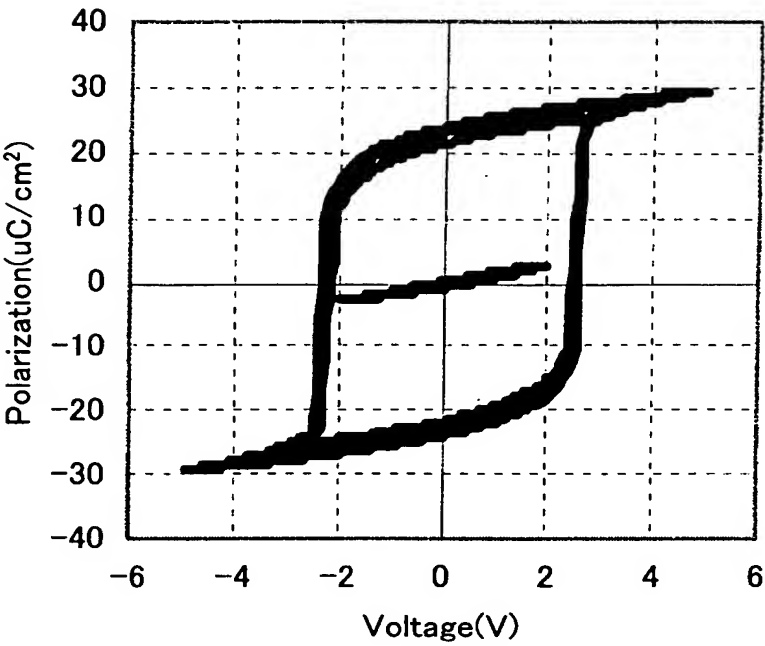


FIG. 43B

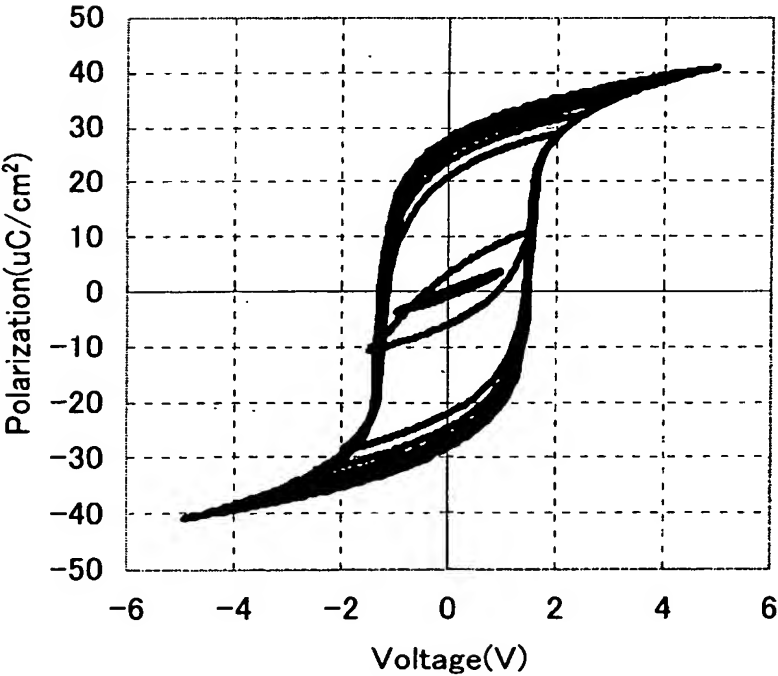


FIG. 44

ELEMENT	ATOMIC WEIGHT	VALENCE	ATOMIC RADIUS (Å)	BOND ENERGY(M-O) (kcal/mol)	IONIC ENERGY (eV)
		( IONIC (Å)) RADIUS (Å))			
Pb	207.2	+2(1.08),+4(0.78)	1.33	38.8	7.416
Zr	91.224	+4(0.72)	1.6		6.84
Ti	47.88	+2(0.86),+3,+4(0.61)	1.47	73	6.82
Nb	92.906	+3,+4,+5(0.64)	1.47		6.88
O	54.36	-1,-2(1.4)			13.618

FIG. 45A

BROWN MILLERITE STRUCTURE (ABO<sub>2.5</sub>)

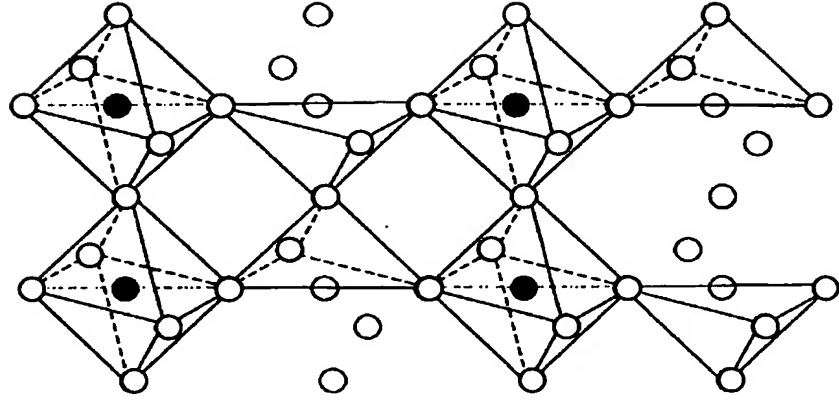


FIG. 45B

POSITIVE ION VACANCY

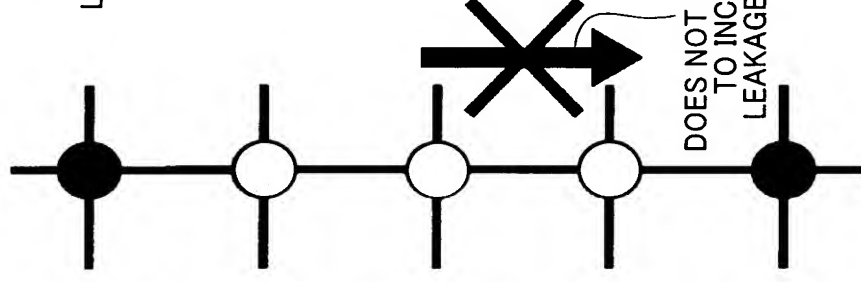
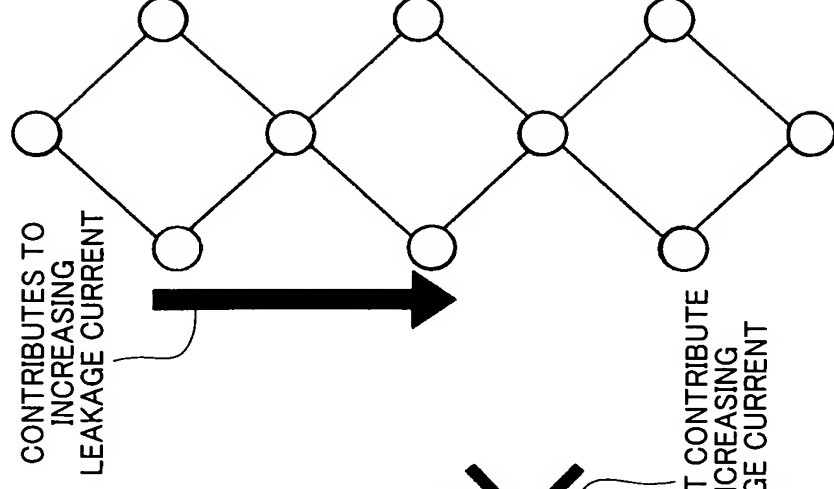


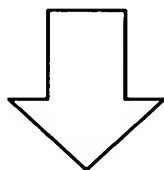
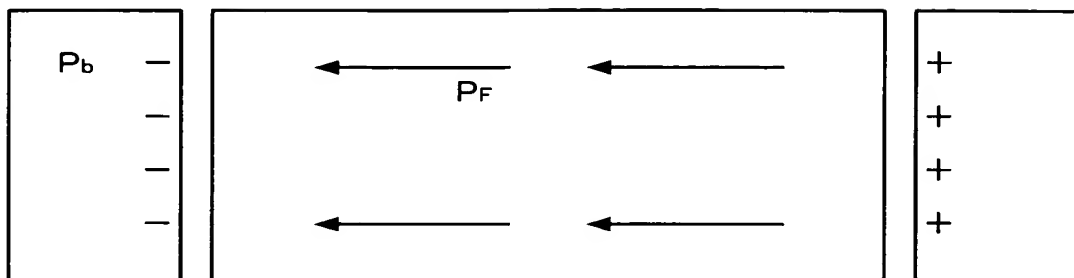
FIG. 45C

NEGATIVE ION VACANCY

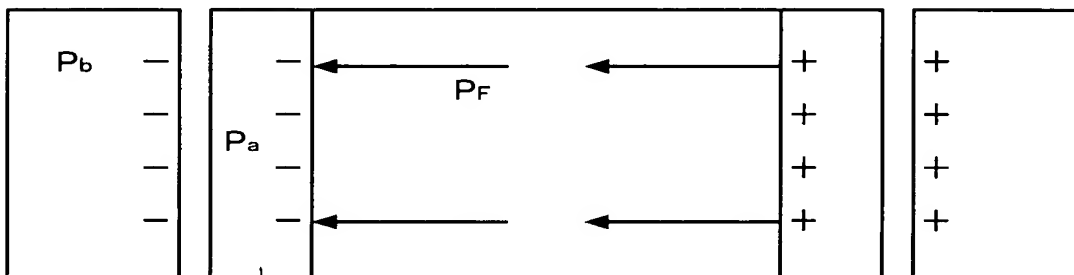


**FIG. 46**

POLARIZATION



LEAVE UNDER  $T_c$



$P_a$  ACTS IN A DIRECTION TO CANCEL  $P_F$